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ABSTRACT

This report presents data on recipients of research doctorates awarded by U.S. universities from July 1996 through June 1997. Among the highlights are: (1) the 382 universities that conferred research doctorates awarded 42,705 doctorates, an increase of 0.7 percent; (2) the number of doctorates awarded by broad field was greatest in the life sciences; (3) women received 17,322 doctorates, or 40.6 percent; (4) between 1996 and 1997 doctorates awarded to racial/ethnic minority groups increased from 8.4 percent to 9.0 percent of all doctorates; (5) U.S. citizens received 70.8 percent of doctorates earned by individuals who identified their citizenship status, up slightly; (6) median time to doctoral degree was 10.5 years, down slightly; (7) 53.9 percent of doctorate recipients received the majority of their financial support from program- or institution-based sources; and (8) of Ph.D.s reporting definite postgraduation commitments, 72 percent planned to work and 28 percent to continue their studies. The report begins with a review of aggregate trends in research doctorates, then discusses trends in seven broad fields, as well as sex, race/ethnicity, citizenship, time to degree, financial support, postgraduation status and plans, and employment. A special section profiles international students. Extensive data tables follow. Five appendices include the survey questionnaire, technical notes, and additional tables. (DB)

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ED 432 211

HE

Summary Report 1997

Doctorate Recipients from United States Universities

Survey of Earned Doctorates

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Highlights

This report presents data on recipients of research doctorates awarded by U.S. universities from July 1, 1996, through June 30, 1997. This information is taken from the 1997 Survey of Earned Doctorates, an annual census of new doctorate recipients.

- The 382 universities in the United States that conferred research doctorates awarded 42,705 doctorates during the 1996-1997 academic year, an increase of 0.7 percent over 1996. This is the highest one-year total ever, 32 percent higher than the corresponding figure of a decade ago. It continues an upward trend in Ph.D.s awarded that began in 1986.

- The number of doctorates awarded by broad field in 1997 was greatest in life sciences, in which 8,213 Ph.D.s were conferred. The numbers conferred in the other broad areas for 1997 were 6,917 in social sciences; 6,574 in physical sciences; 6,497 in education; 6,052 in engineering; 5,387 in humanities; and 3,065 in business and other professional fields. Growth over the past decade has been greatest in engineering (63 percent growth since 1987).

- Women received 17,322 doctorates, or 40.6 percent of all doctorates granted in 1997. This is the highest percentage ever for women, continuing a 30-year upward trend. In 1997 women ranged between 40 and 63 percent of degree recipients in life sciences, social sciences, humanities, education, and business/other professional fields. In the physical sciences and engineering, they constituted 22.1 and 12.4 percent, respectively.

- Between 1996 and 1997 doctorates awarded to U.S. racial/ethnic minority groups increased from 8.4 to 9.0 percent of all doctorates granted, and from 12.9 to 14.3 percent of doctorates awarded to U.S. citizens. Among the 23,021 doctorates earned in 1997 by U.S. citizens who identified their race/ethnicity (97.1 percent), 1,335 doctorates were earned by blacks; 1,328 by Asians; 1,028 by Hispanics; and 149 by American Indians. Broad fields with the largest percentages of minorities were education, in which blacks were the predominant minority group, and engineering, in which Asians were the largest minority group.

- U.S. citizens received 70.8 percent of all doctorates earned in 1997 by individuals who identified their citizenship status (91.5 percent of recipients reported their citizenship). This is up slightly from the previous six years, when the U.S. percentage was about 68 percent, but probably reflects more underreporting of citizenship rather than any substantive change. China was the country of origin for the largest number of non-U.S. doctorates in 1997 with 2,408; followed by India with 1,368; Taiwan with 1,209; Korea with 1,071; and Canada with 403. The percentage of doctorates earned by U.S. citizens ranged from 47.3 percent in engineering and 58.0 percent in physical sciences, to 91.0 percent in education and 82.6 percent in humanities.

- Median time to degree since the baccalaureate was 10.5 years in 1997, down slightly from 10.8 years in 1996. Median time to degree since first enrollment in any graduate program was 7.3 years, similar to the 1996 figure of 7.2 years. The typical doctorate recipient received his or her Ph.D. at age 33 years.

- More than half – 53.9 percent – of doctorate recipients received the majority of their financial support for graduate education from program- or institution-based sources such as university fellowships or teaching and research assistantships. With regard to loans as a source of financial aid, 49.1 percent of doctorate recipients reported some level of educational indebtedness at completion of the Ph.D, 1.7 percentage points higher than the average for the preceding three years.

- Ph.D.s reporting definite postgraduation commitments (at graduation) for employment or continued study was 67.4 percent in 1997. Of those, about 72 percent will work and 28 percent will continue their studies. For U.S. citizens and those holding permanent visas, 49.1 percent of those with firm employment commitments noted academe as their planned work sector; about one-fourth indicated industry or self-employment; 7.3 percent said some level of government; the remaining 18.9 percent checked "other."

Summary Report 1997

Doctorate Recipients from United States Universities

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NOTICE

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Additional data from the Survey of Earned Doctorates and the Doctorate Records File are available free on request. (See inside back cover.) For a fee, off-the-shelf tables on the baccalaureate origins of Ph.D.s by major field of doctorate and tables on the citizenship, race/ethnicity, and sex of Ph.D.s by fine field are available to requesters. Customized tables can also be prepared at cost. For more information, please contact:

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ACKNOWLEDGMENTS

Although the report series and the SED are not new, this is the first survey year for which the National Opinion Research Center (NORC) at the University of Chicago has been responsible for preparing the hard-copy and electronic versions of the data tables and the descriptive overview. Prior to this year, these tasks were handled, and handled well, by the National Research Council (NRC). NORC gratefully acknowledges the support, cooperation, and guidance received from its NRC colleagues during the transition year. Responsibility for actual data collection was shared between NRC and NORC. For the subsequent survey year—July 1997 through June 1998—NORC has total responsibility for distributing, collecting, and data-entering the SED questionnaire, as well as producing *Summary Report 1998.* Special appreciation is expressed to Peter Henderson, Project Manager, Eileen Milner, Prudy Brown, John Hines, Charlotte Kuh, and Marilyn Baker at NRC. The following NORC staff members worked on the transition of the project: Norman Bradburn, Senior Vice President for Research; Laura Knapp, Associate Project Director; Lance Selfa, Research Analyst; Syed Ahsan, Coordinator for the Data Preparation Center; Susan Dauber, Data Quality Analyst; Alison Baldwin, Research Assistant; Isabel Guzman-Barron, Administrative Assistant; Rebecca Hanson, Survey Statistician; Sharnia Bullock, Data Preparation Supervisor, and the Production Center Staff; Lisa Lee, Survey Methodologist; Whitney Moore, Survey Statistician; Javier Porras, Survey Statistician; and Karen Veldman, Administrative Assistant. Overall responsibility for directing the SED project at NORC was shared during the past year by Patricia Green and Thomas Hoffer, Project Directors.

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SED questionnaires are distributed by and returned to various academic officers at the nation's doctorate-granting universities (for forwarding to NORC). The project gratefully acknowledges the support and assistance of graduate deans and their staffs, registrars, dissertation secretaries, and other administrators who participate in the SED effort and contribute to its success.

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CONTENTS

Page

HIGHLIGHTS .... inside front cover

INTRODUCTION 1
- Organization 3

TRENDS IN DOCTORATE RECIPIENTS 5
- Overall Numbers and Rates of Growth 5
- Doctorate-Granting Institutions and Doctorates per Institution 6
- Doctorates by Broad Field 8
- Sex 13
- Race/Ethnicity 15
- Citizenship 18
- Time to Degree 19
- Financial Support 23
- Postgraduation Status and Plans 26
- Employment 26

A PROFILE OF INTERNATIONAL STUDENTS (SPECIAL SECTION) 27
- Demographic Profile 27
- Totals, Trends, and Distributions 32
- Distribution by Institution 36
- Time to Degree 36
- Financial Support 38
- Postgraduation Plans 42

DATA TABLES 45

APPENDIXES 77
- A The Seven Basic Tables, 1997 81
- B Trend Tables, 1987-1997 111
- C Technical Notes 121
- D Survey of Earned Doctorates Questionnaire, 1996-1997 131
- E Field Classification and Research Degree Titles 145

NSF PUBLICATIONS FROM THE DOCTORATE DATA PROJECT .... inside back cover

LIST OF FIGURES

Page

1 Doctorates awarded by U.S. colleges and universities, 1957-1997 6
2 Annual growth or decline in doctorates awarded by U.S. colleges and universities, 1957-1997 7
3 Distribution of Ph.D.–granting institutions and doctorates by Carnegie classification, 1997 10
4 Science and engineering doctorates awarded by broad field, 1967-1997 11
5 Education, humanities, and professional/other doctorates awarded by broad field, 1967-1997 11
6 Distribution of Ph.D. recipients by broad field: 1967 and 1997 compared 12
7 Doctorate recipients by sex, 1967-1997 14
8 Percent of female doctorate recipients by field, 1967, 1977, 1987, 1997 15
9 Minority Ph.D.s among U.S. citizens by race/ethnicity, 1977-1997 16
10 Percentage of doctorates earned by U.S. minorities, 1977 and 1997 16
11 Percentage of doctorates earned by U.S. minorities by broad field, 1997 17
12 Median years to doctorate from baccalaureate award, and age at doctorate, 1972-1997 21
13 Age distribution at doctorate by field of study, 1997 22
14 Primary sources of financial support for doctorate recipients, 1997 24
2-1 Country/region of undergraduate college entry for 1997 non-U.S. citizen Ph.D. recipients 28
2-2 1997 Ph.D. recipients by citizenship status and sex 29
2-3 Sex of 1997 Ph.D. recipients by citizenship status 29
2-4 Marital status of 1997 Ph.D. recipients by citizenship status 30
2-5 Father's educational attainment by country of citizenship for 1997 Ph.D. recipients 31
2-6 Parents' educational attainment by sex for 1997 Ph.D. recipients 32
2-7 Mother's educational attainment by country of citizenship for 1997 Ph.D. recipients 33
2-8 Broad field of study by type of citizenship for 1997 Ph.D. recipients 34
2-9 Distribution of international doctorate recipients by broad field of study for leading countries of origin, 1997 35
2-10 1997 Ph.D. recipients by degree-granting institution's Carnegie classification and by citizenship status 37
2-11 Primary source of support by type of citizenship for 1997 Ph.D. recipients 38
2-12A Primary source of support by broad field for U.S. citizen 1997 Ph.D. recipients 40
2-12B Primary source of support by broad field for non-U.S. permanent resident 1997 Ph.D. recipients 41
2-12C Primary source of support by broad field for non-U.S. temporary visa holder 1997 Ph.D. recipients 41
2-13 Percent of 1997 Ph.D. recipients who report U.S. as postdoctoral location by country of citizenship 43

*** IMPORTANT NOTICE ***

The estimates reported for the Survey of Earned Doctorates (SED) are simple tabulations of all available information with no adjustment for nonresponse. Therefore, differences in response rates from year to year can produce numerical fluctuations that are unrelated to real trends.

Although response to the SED has been as high as 95 to 98 percent over time, it declined to 92 percent during the 1980s. In an effort to improve the response rate, the survey methodology was modified in the years after 1989. Response rose, stabilizing around 95 percent for 1991 to 1995. However, the response rate for 1996 was 92.8 percent. The 1997 rate was 90.8 percent. (Note: These percentages represent *self-report rates*, that is, the proportion of questionnaires completed by doctorate recipients. While survey forms containing partial information filled in by either the doctoral institution or staff of the National Opinion Research Center are not included in these rates, tables in this report incorporate the available data from these forms.) The self-report rate for 1997 may increase slightly in the next year if additional questionnaires are received from doctorate recipients. See page 117 in Appendix C for a table giving survey response rates from 1965 to 1997.

Item response rates have shown a parallel improvement since 1990—a natural consequence of the increase in the overall self-report rate, as well as a result of format revisions to the questionnaire and follow-ups for missing information. In 1990, new follow-up procedures were implemented to increase coverage of several variables: birth year, sex, race/ethnicity, citizenship status, country of citizenship, baccalaureate year and institution, and postgraduation plans. Response rates for these variables have since improved—especially for citizenship and race/ethnicity, resulting in an increase in the reported numbers of minority Ph.D.s. However, for 1997 the citizenship rate is lower than it has been in the most recent years. Whether or not individuals completed the survey questionnaire, the following four data items are available for most all recipients: sex, Ph.D. institution, Ph.D. field, and Ph.D. year.

The data for a given year are updated the following year with any responses received *after* survey closure. Post-survey adjustment was most significant for 1990 and 1991 Ph.D.s, with the largest impact on the number of blacks. For both of these years the total number of black Ph.D.s increased by about 7.5 percent in the year after survey closure. The survey cycle was then extended to allow receipt of more follow-up information before closure, resulting in much smaller post-survey adjustments for 1992, 1993, 1994, and 1995 data (a 1.4 percent increase in black Ph.D.s for 1992, a 0.2 percent increase for 1993, a 0.5 percent increase for 1994, and a 1.5 percent increase for 1995).

Adjustments to data are presented in reports subsequent to the initial report for a survey. For example, updates for 1994 appeared in *Summary Report 1995*. Updates to 1997 data will be presented in next year's report.

In using SED data, the reader should keep in mind that numerical trends are affected by fluctuations in response rates. Increasing or decreasing numbers in a citizenship or racial/ethnic group reflect to some degree any change in both overall response and item response.

SUMMARY REPORT 1997
DOCTORATE RECIPIENTS FROM UNITED STATES UNIVERSITIES

Introduction

Summary Report 1997, Doctorate Recipients from United States Universities, is the thirty-first in a series of reports on research doctorates awarded by colleges and universities in the United States[1]. The data presented and discussed in this report are from the annual Survey of Earned Doctorates (SED), a census of research doctoral recipients who earned their degrees between July 1, 1996, and June 30, 1997. This survey has been conducted since 1958; five Federal agencies sponsor the survey and the report. All survey responses become part of the Doctorate Records File (DRF), a virtually complete database on doctorate recipients from 1920 to 1997.

For the most part, the current report employs the same model and presents the same type of data as National Research Council (NRC) has for its recent editions. However, a few caveats and points of departure in *Summary Report 1997* are worth noting. First, the overall response rate for the 1997 survey was 90.8 percent, slightly lower than the 92.8 percent achieved in 1996. In a few item areas, missing data could affect the reliability of the conclusions; those areas are mentioned explicitly when they appear.

Second, readers will note three changes in the report this year:

1. Although the figures and tables remain approximately the same, in the accompanying text we have not provided as many "bullet points" or details denoting principal findings. Because of the myriad of possible permutations, we have chosen to err on the side of brevity and let individual readers take what is important for their selected purposes from the data. In addition, year-to-year fluctuations may be less important, and even less accurate, than a longer term perspective, especially when small differences in response rates, rather than substantive changes within and across institutions, may be producing the observed variations. As a substitute for these highlighted points, we have provided short background summaries or contexts for the data series, where appropriate.

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[1] The Survey of Earned Doctorates collects information on *research* doctorates only. This differs from the institutional collection of numbers of degrees done by the U.S. Department of Education on *all* doctorates. For an evaluation of the differences, see National Science Foundation, 1993, *Science and Engineering Doctorates 1960-1991*, NSF 93-301, Detailed Statistical Tables, Washington, D.C., pp. 2-6.

2. At various junctures we have provided complementary information on measures of central tendency (such as a mean or median); in some cases knowing something about the variability of these measures is not only helpful, it may be more important than the average itself. Where appropriate, complementary information on the variation will be expanded upon in future reports.

3. Just as it makes sense to distinguish among various broad fields of study and citizenship when comparing data on levels and sources of graduate financial aid, time to degree, and postdoctoral commitments and employment plans, it may be valuable to make comparisons across institution type and size as well. While there is arguably no single best way for segmenting the institutional doctoral universe, a convenient approach is to use the 1994 Carnegie Classification of Higher Education categories, which classify institutions on the basis of the overall number of doctorates awarded, the number of fields represented, and the level of annual Federal support. Different institutions may attract different types of students, who in turn may be more diverse with regard to enrollment status (full- versus part-time enrollment), age, sources of support, and subsequent employment goals and expectations. Thus, for a few selected variables, the tabular displays and discussions include distinctions by institutional category. Such delineations may also be expanded in subsequent years.

Finally, in addition to the basic tables and SED data that readers normally expect to see each year, the summary reports periodically have included special sections devoted to issues of particular importance. Within the last ten years, topics have included baccalaureate origins of doctorate recipients, differences by broad academic field, time to degree, ethnic minority and female doctorates, and postgraduation plans. For the *Summary Report 1997*, a special section is devoted to an expanded look at the dimensions of international participation in U.S. doctoral programs. This section reflects continuing interest in international students specifically, as well as the broader issues of globalization of graduate education and of the world's economies. In terms of sheer numbers and percentages, international students are a significant component of doctoral education in the United States, with almost 30 percent of all doctorates earned by non-U.S. citizens (in some individual fields that figure exceeds 50 percent).

Any assessments of aggregate numbers and averages for doctoral students must be viewed in context. For example, the level and type of financial support varies enormously by field of study—the experience of students in the physical sciences bears little resemblance to that of their peers in the humanities. Context is even more important when comparisons turn to international versus "domestic" students (domestic from the vantage point of U.S. universities and Federal and private sponsoring agencies in the United States). The fact that international students are more concentrated in science and engineering than are U.S. students means that raw comparisons of times to degree, ratios of male-to-female students, and postdoctoral plans may be misleading. Furthermore, even within broad fields of study, distribution of financial aid varies significantly by citizenship category because of the regulations governing eligibility for certain types of support, such as national fellowship and loan programs. And, of course, the decision as to the type and location of postgraduate study or employment is not independent of the home country's restrictions with regard to visa status, the state of its own labor markets for highly skilled workers, and other public policies that affect incentives and alternatives.

ORGANIZATION

Summary Report 1997 begins with a review of aggregate trends in research doctorates awarded by U.S. universities, followed by discussions with regard to field, focusing on the seven broad fields in which doctorate recipients earned their degrees.

The discussion continues with sections examining trends in doctorate awards by sex, race/ethnicity, and citizenship, and concludes with sections describing time-to-degree statistics, sources of financial support during graduate school, and the postgraduation status and plans of doctorate recipients at the time the degree is awarded. *A special section provides a detailed profile of non-U.S. citizen doctorate recipients.*

The brief narratives of key survey findings in these sections are accompanied by figures displaying selected trend data. The numbers and percentages from which the figures are drawn are provided in a set of tables that follow the main text. Relevant tables are referenced at the bottom of the figures.

Basic tables of data on 1997 doctorate recipients are displayed in Appendix A, and trend data on the 1987-1997 Ph.D. cohorts are presented in Appendix B. Appendix C provides technical notes that include response rates and other information related to tables and figures in the body of the report. Appendix D contains a copy of the SED questionnaire used for the 1996-1997 academic year.

Trends in Doctorate Recipients

Overall Numbers and Rates of Growth. U.S. universities awarded 42,705 research doctorate degrees[2] during the 1996-1997 academic year (July 1, 1996, through June 30, 1997). This is the highest one-year total ever, 32 percent higher than the corresponding figure of a decade ago, and 10 percent higher than the total for 1992, five years ago. For the longer time period of 1957—the year of Sputnik—to 1997, the annual rate of increase in earned doctorates has been 4.1 percent: first a steep growth from 1957 to1973, a "saddle" until the late 1980s, and then a steady upward trend for the last 10 years. However, 1990 was the only year since 1972 in which the growth rate exceeded the long-term average. Figures 1 and 2 and Tables 1 and 2 provide complementary visual depictions and the raw data for these observed trends. The extent to which field of study, sex, citizenship, and race/ethnicity contributed to the overall growth trends are discussed in appropriate sections below.

The annual growth rate from 1996 to 1997, 0.7 percent, was less than the growth rate for the preceding 12-month period (1.6%), and the lowest for any year since 1985. However, this also marks the twelfth consecutive year of increase in the number of doctorates earned, something not seen since the double-digit annual growth period of the 1960s and early 1970s. (It was not until 1989 that the total annual doctorates awarded again reached the 1973 peak of 33,755; this 16-year interval showed some years of modest annual increases, punctuated by several years with larger percentage declines.)

By way of comparison to other graduate/professional programs for the 1996-1997 academic year, 15,907 M.D. degrees were awarded, a number that has held steady in recent times despite a fall in the number of applications to medical school. In that same year, 40,140 J.D. degrees were awarded by U.S. law schools (virtually unchanged for the past several years). In 1995-1996, 93,982 MBA degrees were conferred by the nation's business schools (1996-1997 data are not yet available)[3] .

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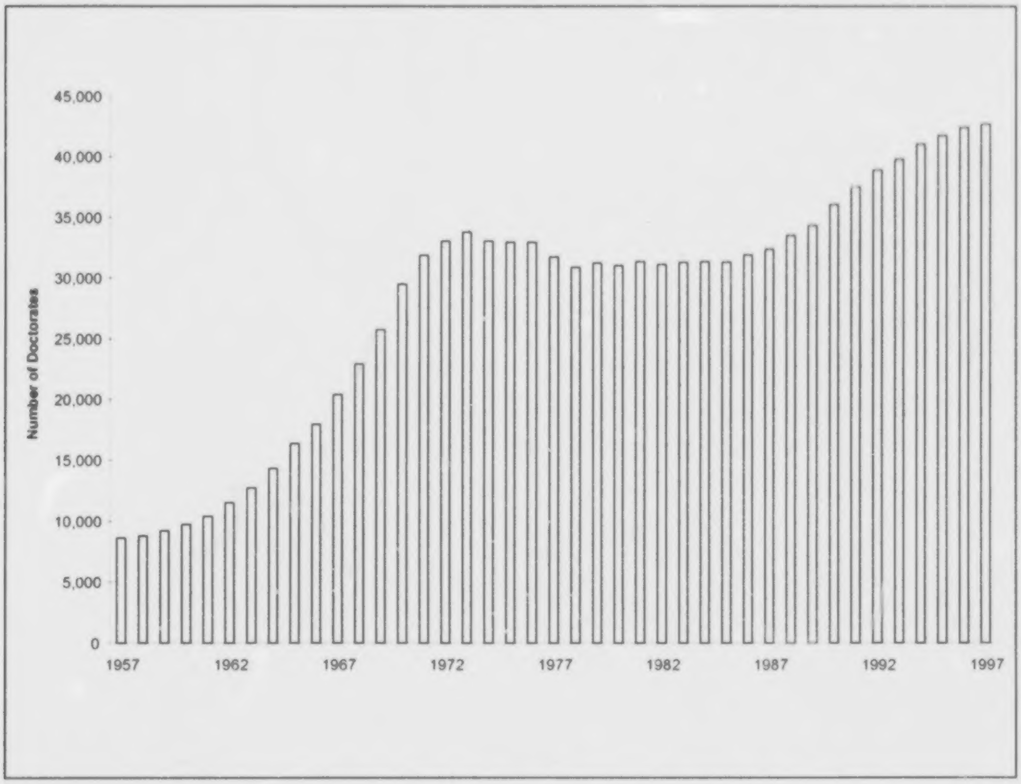
[2] Doctorates are reported by academic year (from July 1 of one year through June 30 of the following year) and include *research* and *applied-research doctorates* in all fields. Doctoral degrees such as the Ph.D., D.Sc., and Ed.D. are covered by this survey; professional degrees (e.g., M.D., D.D.S., J.D., Psy.D.) are not. A full list of included degrees can be found on the last page of the report. For convenience throughout this report, "Ph.D." is used to represent any of the doctoral degrees covered by the survey.

[3] Data furnished to NORC by the three respective professional associations.

Doctorate-Granting Institutions and Doctorates per Institution. The number of universities–382–that awarded doctorates in 1997 has remained approximately the same for the last few years and may have leveled off after increasing steadily since the early 1960s. The 1997 figure is more than double the 1961 number of 174, with the intervening period witnessing increases in the number of doctorate-granting institutions almost every year, as shown in Table 3. (There are 126 medical schools in the United States, 181 law schools, and more than 700 business programs that award MBA degrees.)

The average number of doctorates awarded per institution has increased slowly over the last decade, but it is still lower than the peak period of the early 1970s, when it had doubled in the space of just 12 years. The 1997 figure of 112 is the highest in the 1990s, but the annual number of degrees per institution has remained within a relatively narrow band for the last 30 years. (See Table 3.)

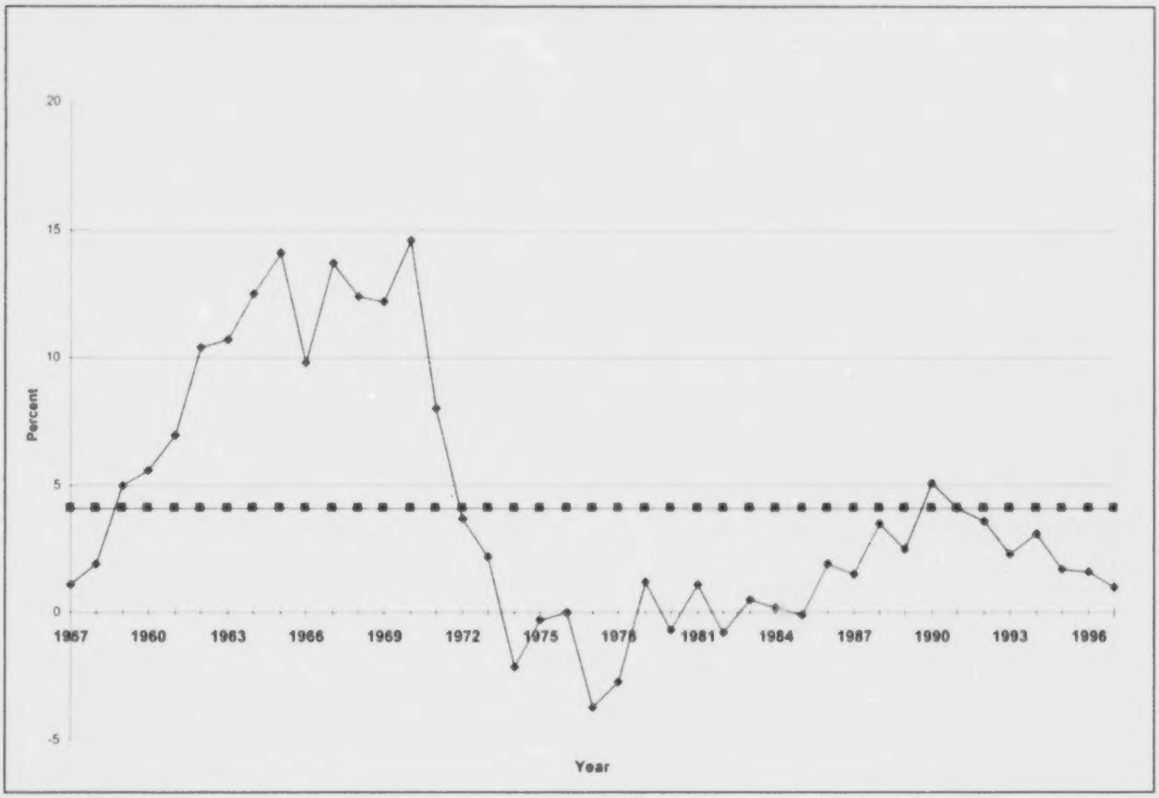
Figure 1
Doctorates awarded by U.S. colleges and universities, 1957-1997



See Table 1, Page 49.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Figure 2

Annual growth or decline in doctorates awarded by U.S. colleges and universities, 1957-1997



See Table 2, Page 49.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

However, there is considerable dispersion around that overall average and the inter-institutional variation in the aggregate, as well as in the distribution of degrees by broad field area. The variation may be more interesting than the measure of central tendency (in this case, the mean), which is not a particularly informative figure for institutional or public-policy decision making. For example, only 109 of the 382 institutions awarding doctorates in 1997 granted more than the average number, but they accounted for 76.8 percent (32,810) of all doctorates awarded in that year. These 109 institutions granted over 300 doctorates on average while the remaining 273 institutions granted an average of only 36 doctoral degrees.

More than anything else, this range simply points out the enormous heterogeneity across the rich landscape of higher education in the United States. About 2,000 colleges and universities award at least a baccalaureate degree, and about 400 grant some type of doctorate. The Carnegie

Classification of Higher Education, developed by Clark Kerr in 1970 and modified over time, groups American colleges and universities by their primary academic mission. Institutions are classified according to the highest degree conferred and, for institutions that offer the doctorate, the number of doctorates awarded, the academic disciplines represented, and the dollar volume of the institution's Federal support.

Currently 236 universities fall into the four principal Carnegie groups of research doctorate institutions, and more than 150 institutions fall into an "other" category representing comprehensive colleges and universities, and specialty schools of religion and theology, medicine and health, engineering, business, art and music, and so forth. Table 4 shows the number of universities granting doctorates in 1997 by Carnegie classification, the number and percent of all doctorates awarded within each grouping, and the average number of doctorates awarded by broad category. Figure 3 provides a visual summary of the same information.

As can be seen in Figure 3, Research I universities account for slightly less than a quarter of all doctorate-granting institutions, but collectively they award more than two-thirds of all doctorates; the Research I universities average 327 doctoral degrees per institution, whereas those in the other four institutional groups average only 47.

As noted above, the number of doctorate-granting institutions has substantially increased over the last 25 years. That growth has occurred in all Carnegie classifications categories, but mainly within Research I, Doctoral II, and Other (that is, comprehensive universities and specialized institutions); the number of doctorate-granting institutions categorized as Research II or Doctoral I has not grown over this period.

Doctorates by Broad Field. Of considerable national and institutional interest is the distribution of the 42,705 doctorates by academic field, and comparisons by field with prior years' distributions. Understanding the levels and trends in doctoral education by broad field of study (and by citizenship, race/ethnicity, and sex) is of paramount importance to faculty and academic administrators, Federal and private sponsors of doctoral education (and the SED), research and development interests, and others involved in policy decisions that affect graduate education and the nation's highly trained work force.

For 1997, as in previous single years, the overall 0.7 percentage gain in number of earned doctorates was not evenly distributed across academic fields. Figures 4 and 5 and Table 5 provide graphic depictions and data in five-year intervals from 1967 to 1997. Within science and engineering (S & E), the number of doctorates fell by 1 percent from 1996 to 1997, with three of the four categories showing declines (the social sciences alone had a gain–1.5 percent).[4] Between 1992 and 1997, the combined S & E area showed a gain of 9.8 percent, matching exactly the percentage increase for all doctoral fields in that time span. Among specific S & E fields, only chemistry and agricultural sciences registered losses over that five-year period.

Within the traditional arts and sciences fields, the humanities had the largest percentage increase in doctorates, 5.3 percent, between 1996 and 1997; the number of doctorates was also higher for the major disciplines within the humanities. Over the longer five-year period from 1992 to 1997, the rate of increase in doctorates for the humanities—21.2 percent—was more than double the average across all fields.

In groupings familiar to many graduate school deans (in part because of similarities with regard to sources and levels of financial aid, time to degree, and other demographic characteristics, as well as the traditional purviews of these academic administrators), there were 14,787 doctorates awarded in the physical and life sciences in 1997, and 12,304 in the humanities and social sciences, a decrease of 1.0 percent and an increase of 3.1 percent, respectively, over 1996. For the five-year period 1992-1997, both of these broad groupings showed gains in the number of doctorates, 8.6 percent and 15.4 percent, respectively.

The 4 percent decline in engineering doctorates from 1996 to 1997 represents the first annual negative rate of change in that field since 1986, although the number of engineering doctorates—6,052—is the second largest total ever.

Education registered a 2.7 percent decline in Ph.D.s conferred from 1992 to 1997, but in the same five-year period, areas of doctoral study that fall into the professional and other grouping exhibited a 14.6 percent increase in degrees awarded.

When compared over a much longer period, the gains in all major fields are substantial (see Table 5). From 1967 to 1997, in the aggregate, the number of doctorates doubled. The largest broad category in 1967—the physical sciences, computer sciences, and mathematics—grew 51.7 percent by 1997, but is now only the third largest of the seven groupings. Within the physical sciences, 40 percent of the 30-year gain came from just one field–computer science, which awarded no doctorates until the 1970s.

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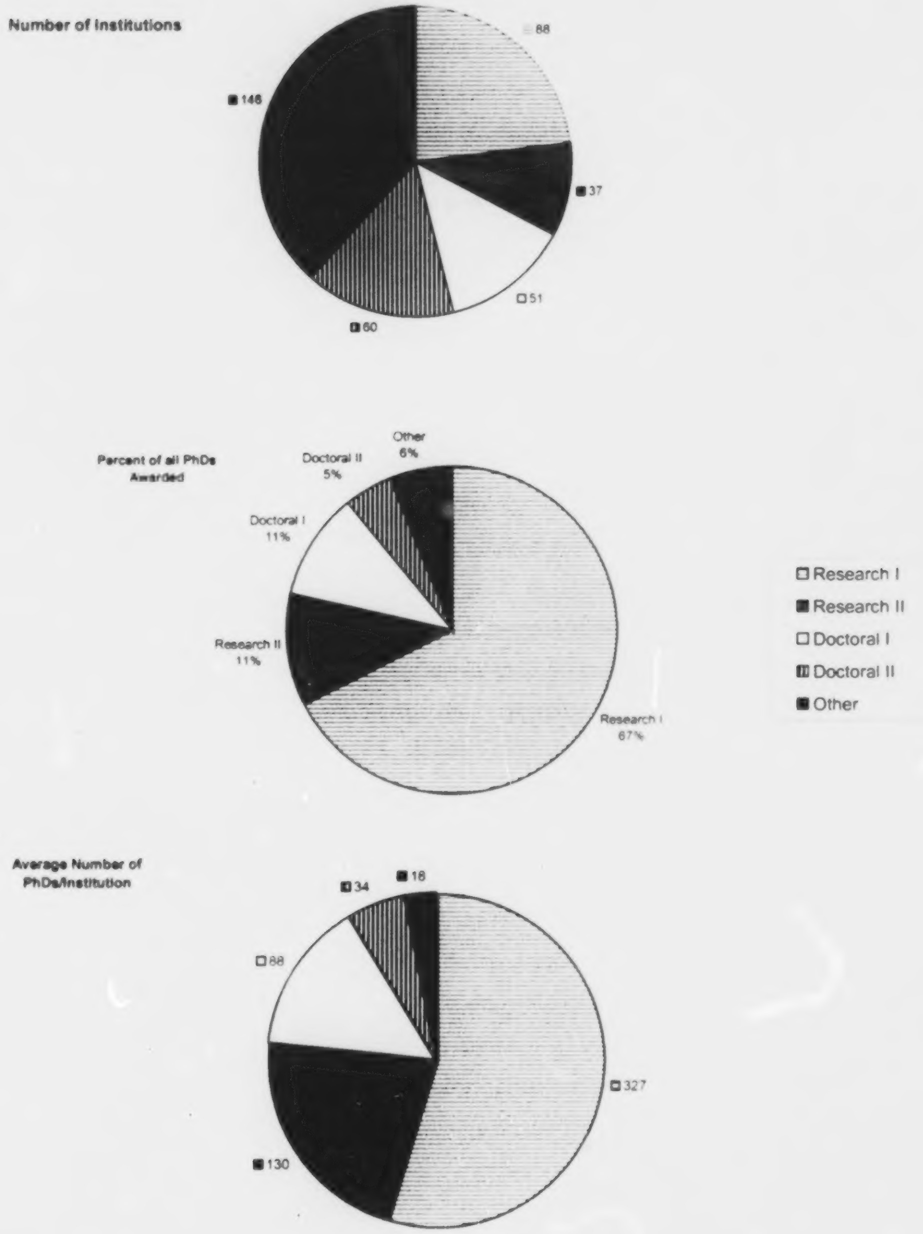
[4] Hill, Susan, T. "Doctorate Awards Declining in Some Science and Engineering Fields." Data Brief, NSF 99-339, National Science Foundation, Division of Science Resources Studies. Arlington, VA. April 6, 1999.

Figure 3

Distribution of Ph.D.-granting institutions and doctorates by Carnegie classification, 1997

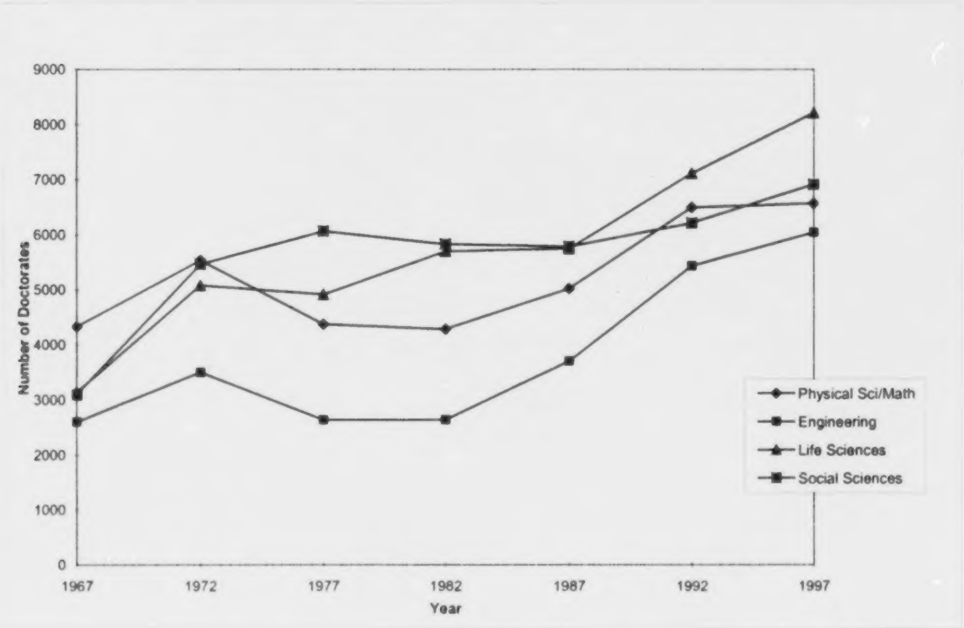


See Table 4, Page 50.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Figure 4

Science and engineering doctorates awarded by broad field, 1967-1997

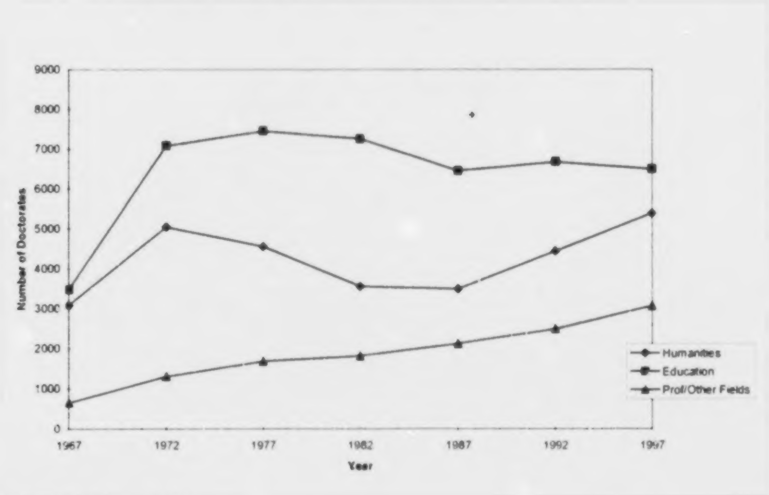


See Table 5, Page 51.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Figure 5

Education, humanities, and professional/other doctorates awarded by broad field, 1967-1997



See Table 5, Page 51.

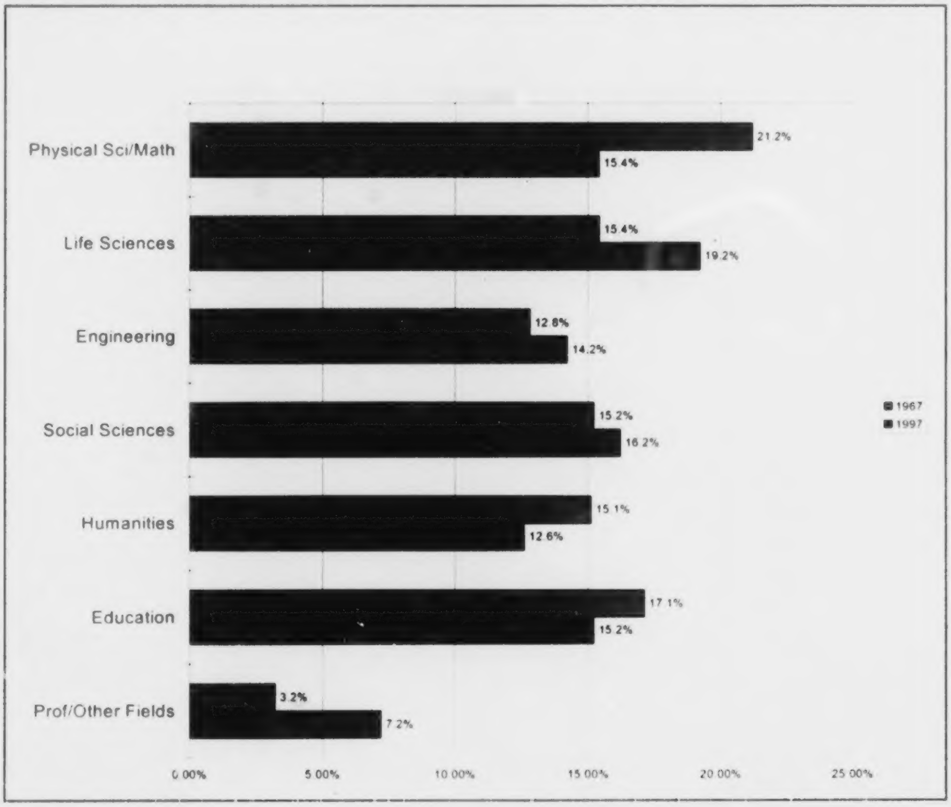
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

The number of doctorates granted in engineering, life sciences, and the social sciences all more than doubled between 1967 and 1997, with the biological and health sciences showing the largest gain. In some social sciences, as well as in the humanities and education, much of the 30-year increase occurred between 1967 and 1972, and in fact, the absolute numbers have held steady or have actually decreased since then, as illustrated in Figures 4 and 5. Within the professional fields, the greatest gains have been in business/management.

The rates of increase (and, in some instances, decrease) within major fields of study have changed the relative size of these broad groupings over time. For example, in 1967, 21.2 percent of all doctorates were awarded in the physical sciences; for 1997 that share was 15.4 percent. Figure 6 shows the relative proportions of the seven broad categories. For the four S & E fields combined, however, the 1967 and 1997 shares are almost identical—64.6 percent in 1967 and 65.0 percent 30 years later.

Figure 6

Distribution of Ph.D. recipients by broad field: 1967 and 1997 compared



See Table 5, Page 51.

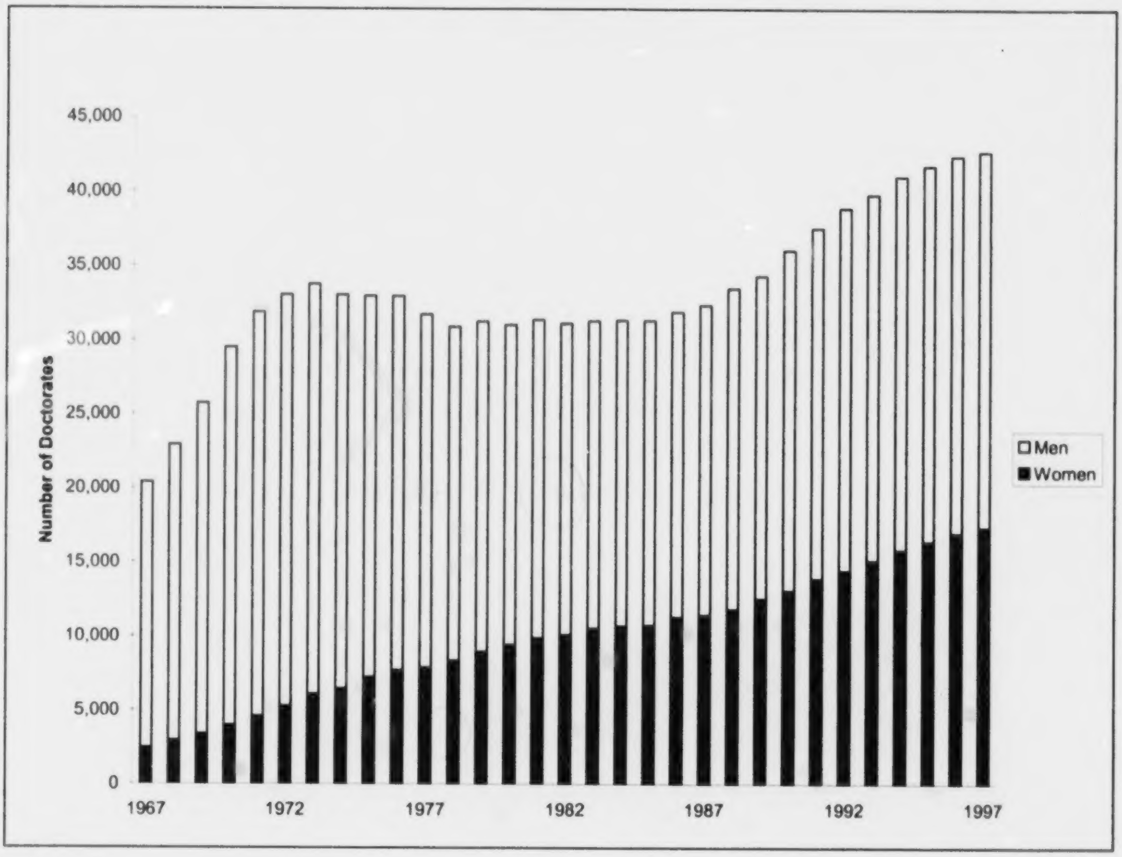
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Sex. Women received 17,322 doctorates, or 40.6 percent of all doctorates granted in 1997, both the highest percentage ever and the highest absolute number for women, continuing a 30-year upward trend. (During World War II the proportion of female doctorates increased, and then under the G.I. Bill, the proportion decreased; the percentage fluctuated between 10 and 12 percent for the next decade before it began a steady upward climb in the mid-1960s.) In fact, the increase in the number of female recipients represents one of the most remarkable changes over time: 20 percent higher than in 1992, 52 percent above the total of a decade ago, and a seven-fold increase since 1967. (See Figure 7 and Tables 6 and 7.) The highest one-year total for doctorates awarded to men remains the 1972 number of 27,754; the 1997 total is about 1 percent below the corresponding figure for 1996.

In most major field areas, women continue to exhibit both higher absolute numbers and increasing percentage gains relative to men. Between 1996 and 1997, women registered gains in absolute numbers of doctorates received in five of the seven major fields of study (compared with gains for men in only two fields), and as percentage of doctorates awarded, women increased relative to men in six of the seven categories. Only in the humanities, where females already constitute almost half of all doctoral recipients, did the male percentage increase exceed that for females from 1996 to 1997. (See Figure 8 and Table 6.)

In spite of recent and longer term changes, the sex distribution of doctorates by major academic field remains somewhat bi-modal: In 1997 women ranged between 40 and 63 percent of degree recipients in five fields (and averaged 50.8 percent across these five divisions); in the physical sciences (including mathematics and computer sciences) and engineering, they constituted 22.1 percent and 12.4 percent of doctoral recipients, respectively. (See Figure 8 and Table 6.)

Figure 7
Doctorate recipients by sex, 1967-1997

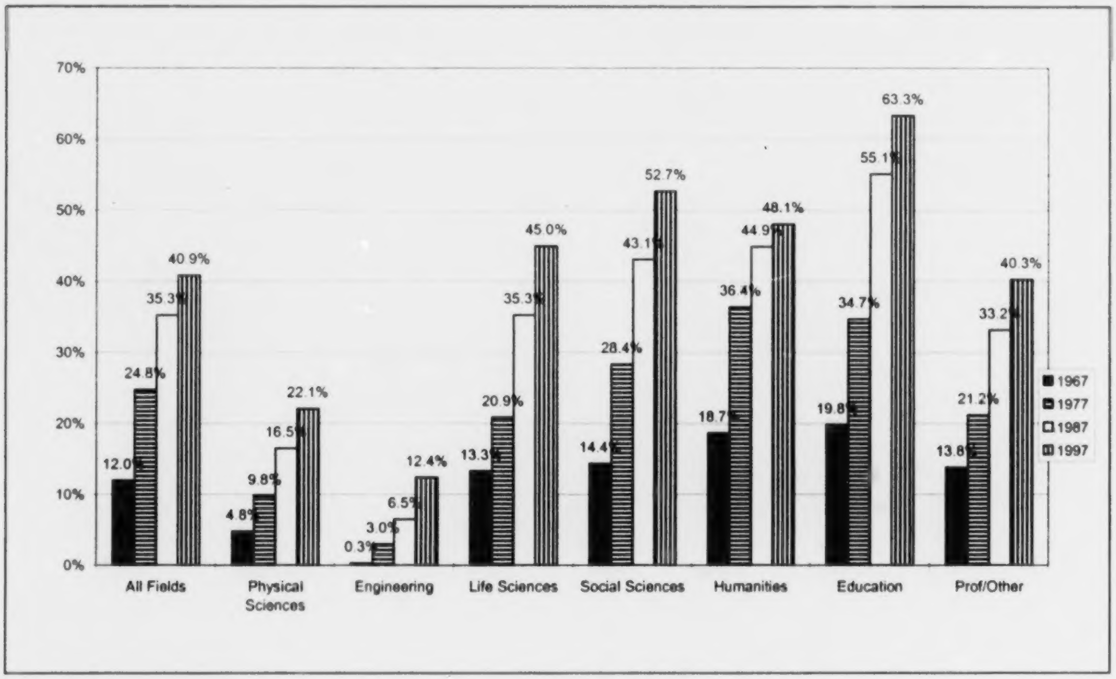


See Table 7, Page 53.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Figure 8

Percent of female doctorate recipients by field, 1967, 1977, 1987, 1997



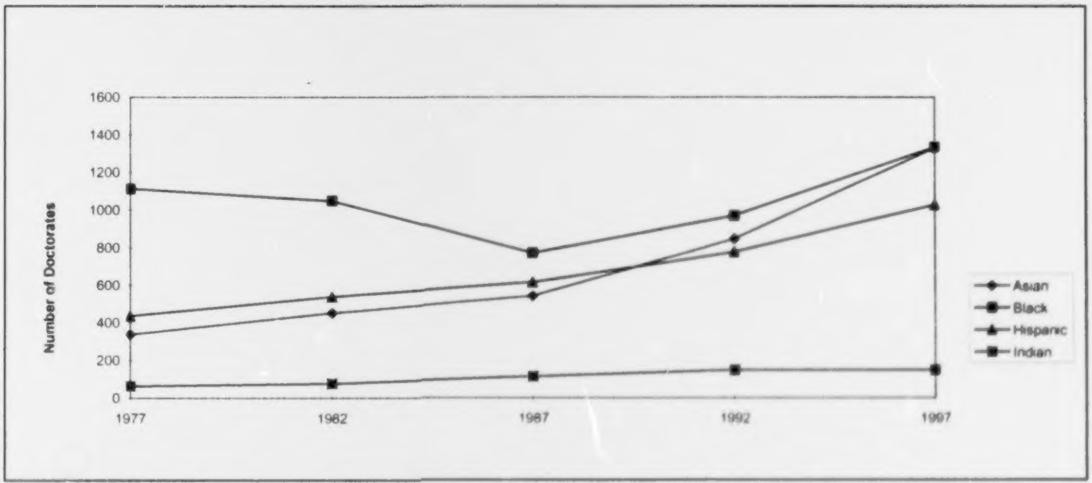
See Table 6, Page 52.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Race/Ethnicity. Between 1996 and 1997 the percentage of doctorates awarded to U.S. racial/ethnic minority groups increased from 8.4 percent to 9.0 percent of all doctorates awarded, and from 12.9 percent to 14.3 percent of doctorates awarded to U.S. citizens. (See Table 8.) Comparisons of U.S. minority Ph.D.s between 1996 and 1997 must note that known racial/ethnic identities in the survey declined from 98.8 percent in 1996 to 97.1 percent for 1997 (in absolute numbers the missing racial/ethnic identifier increased from 343 in 1996 to 807 in 1997). However, the reported number of doctorates received by minorities for 1997 increased in three of the four racial/ethnic categories—for American Indians it was lower—and the direction of the percentage changes would not have been affected significantly by the lower item-response rate for race/ethnicity.

The total number of U.S. minority doctorates for 1997—3,840—is 8.4 percent higher than the number for 1996, 39.8 percent higher than the 1992 figure, and 87.7 percent above the total for 10 years ago. Within racial/ethnic category, when measured on a one-year, five-year or ten-year basis, Asian Americans show the largest percentage gains. However, black, Hispanic, and American-Indian percentage increases are also sizable—73.2 percent, 66.6 percent and 30.0 percent, respectively, between 1987 and 1997; by contrast, U.S. white doctorate recipients grew in number by 12.5 percent for that same 10-year period. Over a longer period—1977 to 1997—while the number of doctorates awarded to whites remained the same, the number earned by the combined minority grouping doubled. (See Figures 9 and 10 and Table 8.)

Figure 9

Minority Ph.D.s among U.S. citizens by race/ethnicity,1977-1997

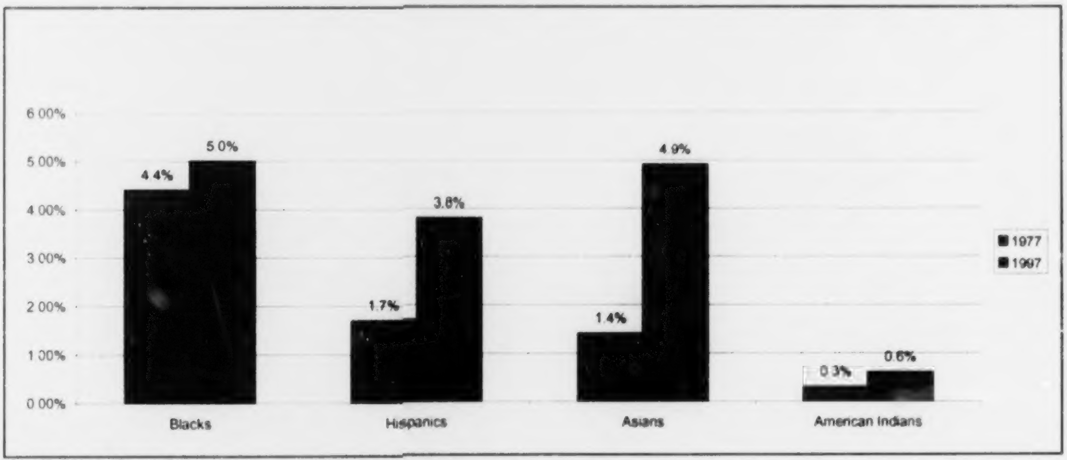


See Table 8, Page 54.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Figure 10

Percentage of doctorates earned by U.S. minorities, 1977 and 1997

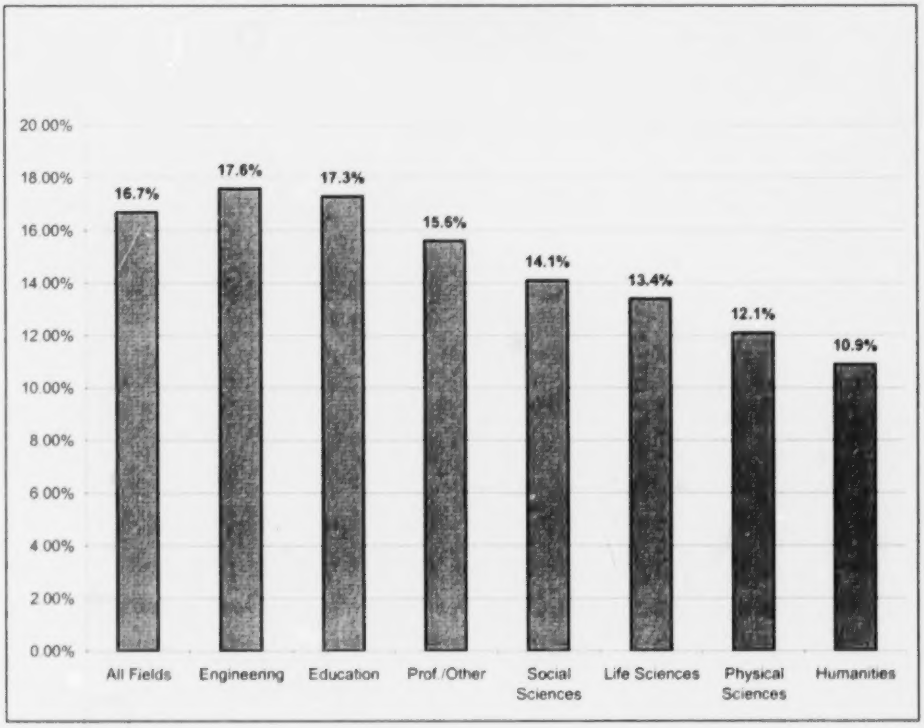


See Table 8, Page 54.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

The number of Asian-American doctorates increased across all major fields. For the most part, blacks and Hispanics also exhibited gains, while American-Indian numbers declined. Within the S & E category, both black and Hispanic doctorates grew between 1996 and 1997 (7.9 percent and 2.2 percent, respectively), although in absolute numbers, they remain low. (See Figure 11 and Table 9.)

Figure 11
Percentage of doctorates earned by U.S. minorities by broad field, 1997



See Table 9, Page 55.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Across major fields, Asian-American students are concentrated in the physical and life sciences and engineering (over 50 percent of Asian Americans are in the latter two categories), whereas the social sciences and education are the two largest fields for the other three ethnic minority groups: 63 percent of blacks are either in education or the social sciences; the corresponding figures for Hispanics and American Indians are 46.2 percent and 52.7 percent, respectively (see Table 9).

Tables 10 and 11 list the leading baccalaureate and doctoral institutions for each of the four U.S. racial/ethnic minority groups over the last few years, by absolute number of degrees (not relative to the size of the respective student bodies).

Citizenship. *Although the aggregate number of doctorates awarded increased by* 0.7 percent between 1996 and 1997, breakdown by citizenship (see Table 12) shows declines in all three categories—U.S. citizens, permanent residents, and those holding temporary visas—a seeming impossibility explained by the higher than usual "unknown" citizenship category. This is the one area in which this year's slightly smaller overall response rate matters, not only for the sake of accuracy and completeness, but because the distribution of doctoral awards between U.S. and non-U.S. citizens is of considerable national and institutional interest. Given that international doctoral students are not distributed across fields of study in the same proportion as U.S. students, the uncertainty in citizenship affects to some extent the conclusions that can be drawn from several data series in this report, and, of course, from the special section on international doctorate recipients.

Other non-response items are either consistent with figures from recent years or are thought not to contain any particular bias. (For example, 384 values for sex are missing, but nothing in the data suggests that those values are distributed differently than the known 59 percent male–41percent female total.) However, there is evidence that underreporting of citizenship status was not random but, in fact, was heavily tilted toward the two non-U.S. citizen groupings, permanent residents and those on temporary visas. With respect to reported citizenship, the U.S. citizen figure dropped by 0.3 percent between 1996 and 1997; the figures for permanent residents and those on temporary visas fell by 22.6 percent and 11.8 percent, respectively, declines too large to be consistent with known enrollment patterns or observed fluctuations in prior years.

The missing citizenship numbers have averaged more than 1,000 per year for many years, but for 1997 the total jumped to 3,647 (versus 1,299 for 1996). Part of the increase stems from the lower overall response rate this year. However, since some of the survey information is provided by the institutions rather than the individual respondents (which has always been the case), visa status may not be known by the graduate schools and thus is not reported. Item non-responses are fairly uniform across the whole questionnaire, so there is no evidence that survey respondents are refusing to provide their citizenship status.

If all of the missing citizenship cases are assumed to be either permanent residents or those on temporary visas, then U.S. citizens received 64.8 percent of all doctorates in 1997.

Under the same assumption, this 1997 number compares with 65.4 percent for 1996 and approximately 66 percent for each of the preceding five years. If the unknown citizenship numbers are distributed across the three citizenship groups in the same proportion as for known citizenship, then the U.S. percentage would rise to 70.8, compared with 67.5 percent for 1996 and about 68 percent for the prior five years. These percentages represent the upper and lower bounds to the biases from the missing citizenship records.

Given that U.S. citizen doctorate recipients as a percentage of those with reported citizenship has remained virtually unchanged for the last several years (at 67.6 percent), an assumption of stability for 1997 as well does not seem unwarranted. That would put the estimated number of U.S. doctorate recipients in 1997 at 28,673 and non-U.S. citizen recipients at 13,742. Extrapolating from recent trends in the distribution between permanent residents and temporary visa holders, these would be approximately 4,122 in the former category and 9,620 in the latter.

All other SED citizenship summary information, including distribution according to field of study, country, and institutions, and a demographic profile, are presented in the special section on international students at the end of the *Survey Report 1997*.

Time to Degree. The amount of time taken by doctoral students to earn their degree can be expressed in various ways. The three ways cited most often, and reported in annual *Summary Reports*, are total elapsed time between receipt of the baccalaureate and granting of the doctorate (Total Time To Degree, TTD); number of years the student is actually registered in a doctoral program (Registered Time to Degree, RTD); and the age at which the doctorate is awarded.

None of these three "clock times" is a precise measure of the time and effort needed to complete a doctorate, nor a gauge of income foregone (or years of earnings remaining). Ideally one would want to capture and exclude years that a student took off for personal reasons or to work, periods in which she or he was enrolled in a program other than the one in which the doctorate was earned, and the amount of time the student may have been gainfully employed professionally (perhaps even full time) while completing final degree requirements. The data currently collected by the SED do not permit such "fine tuning" and the kinds of analyses researchers and policy makers might find most useful.

The RTD measure is often influenced by individual institutional policies governing registration requirements and the availability of financial aid for advanced degree candidates. Other contributing factors are the benefits of and alternatives to being registered for the individual student, such as eligibility for graduate student housing, health insurance coverage, and availability of loans (and deferrals of loan repayments). This measure also does not distinguish between part-time and full-time enrollment.

Some of the elapsed time may be caused by behavioral factors. The candidate might be weighing of the costs and benefits of being awarded the degree, and thus no longer officially being a graduate student, before actually completing the academic requirements. As noted above, that could mean loss of health or housing benefits, and starting of the "loan clock." Securing an academic position or successfully acquiring a job, especially when the job market is soft, may be easier while still a graduate student (as opposed to being officially unemployed or working in an interim nonacademic position). In such cases, candidates may be "marking time" by remaining in a position to complete the degree in short order whenever the right job opening materialized.

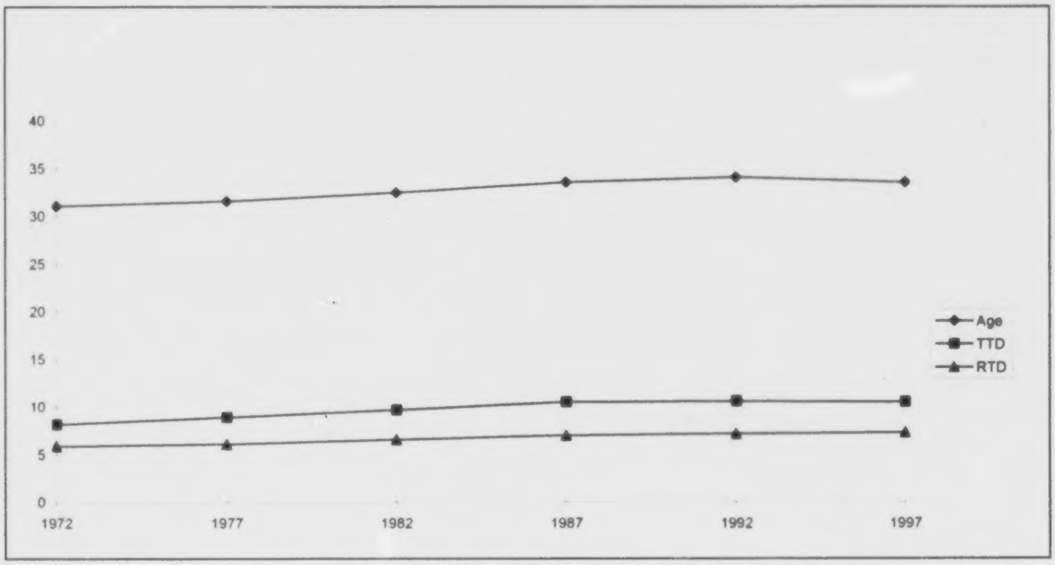
Nevertheless, the three complementary measures of time to degree, when combined with other survey questions (such as the student's main activity immediately prior to earning the doctorate), offer useful insights into the path and process of doctoral study.

In addition, time to degree is generally reported as an average, with the median as the measure of central tendency employed (because it is less influenced than the mean would be by extremely large values—such by someone who very late in life went back to graduate school or completed a doctorate). Often a measure of dispersion can be as or more important than, or at least provide a good complement to, the measure of an average. In the *Summary Report 1997* we have included one of many ways to display variation in the time to degree—by five-year age groupings—along with the more traditional three measures, first in the aggregate, and then delineated by broad field of study, citizenship, sex, and race/ethnicity.

For 1997 doctoral recipients, the median number of years from the baccalaureate to Ph.D. was 10.5. For males, the median was 10.0 years; for females, 11.5 years. The sex gap is largely due to the disproportionate distribution of recipients by field of study—within broad academic areas, such as S & E fields, total time to degree is similar for men and women (although median times are longer for women in the humanities and professional fields). (See Tables 16 and 17.)

The 1997 median time to degree of 10.5 years is slightly lower than it was for the 1996 doctoral cohort (10.8 years) and about the same as it was 5 years and 10 years ago. The upward trend in total time to degree leveled off in the mid-1980s, and total time has been approximately the same since then (see Figure 12). A variation around that steady average is noticeable, however, by field of study, sex, citizenship status, and race/ethnicity. Apart from education and the professional/other category, which have decidedly different career trajectories, variation in TTD ranges from 8.7 years in engineering to 11.7 years in the humanities.

Figure 12
Median years to doctorate from baccalaureate award, and age at doctorate, 1972-1997



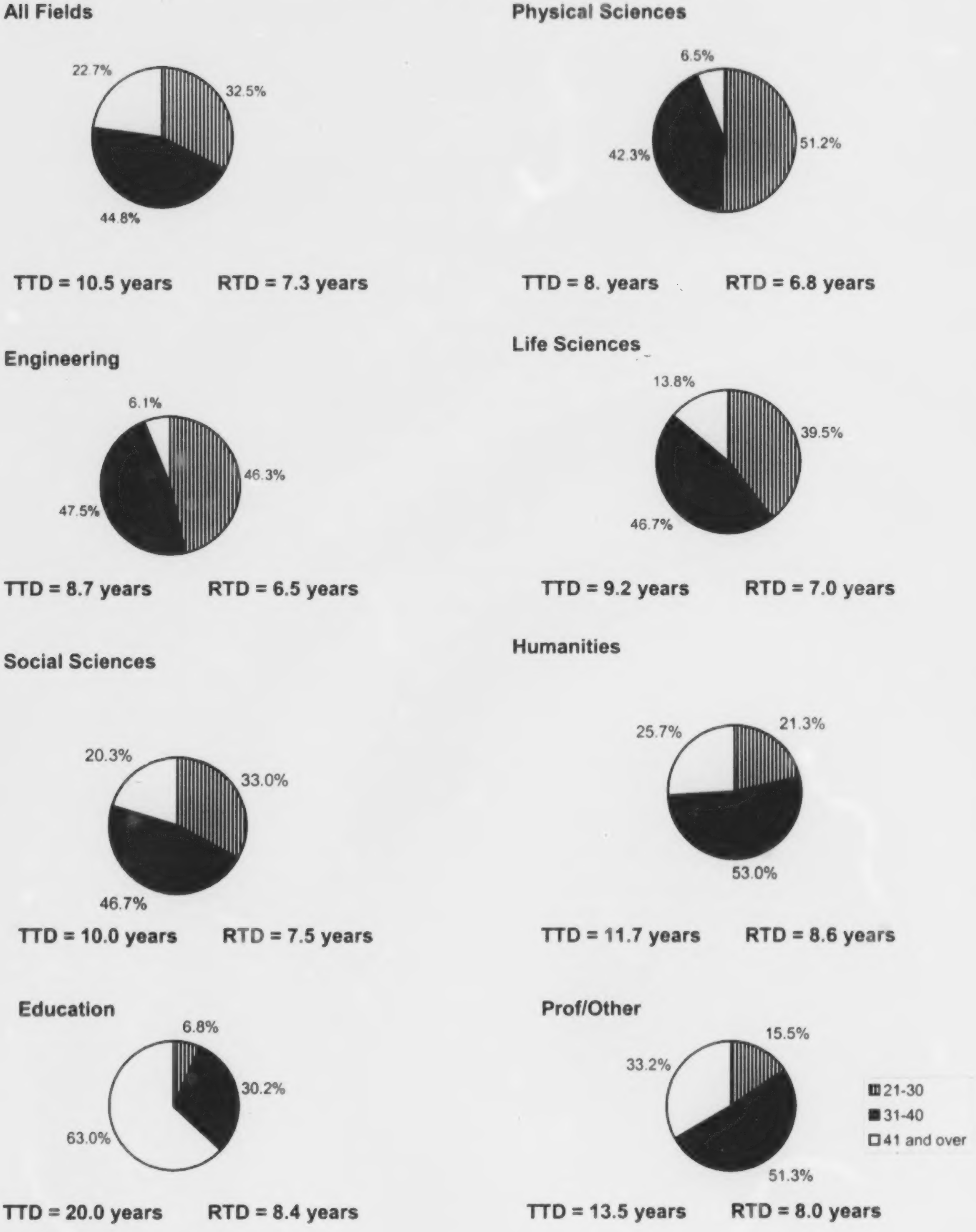
See Table 16, Page 61.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Time to degree measured by actual time registered in the student's doctoral program (RTD) was 7.3 years in 1997, similar to the 1996 figure of 7.2 years. For the last decade, the median registered time has remained approximately constant, at or just above 7 years (see Figure 12). In most instances, the variation by broad field category and demographic characteristic—sex, citizenship, and/or race/ethnicity—hovers within one year of the median.

The typical doctorate recipient in 1997 received his or her degree at 33 years of age (33.6), 0.5 years less than in 1996 but the same as it was 10 years ago. Figure 12 illustrates the slight upward drift, and then a leveling-off, in median age in five-year intervals from 1972 to 1997, a trend that mirrors the TTD and RTD.

As Figure 13 and Table 18 show, there is considerable variation around the median number of years. About a third (32.5 percent) of doctorate recipients are between 21 and 30 at the time the degree is awarded; 44.8 percent are between 31 and 40; and 22.7 percent are over 40 years of age.

Figure 13
Age distribution at doctorate by field of study, 1997



See Table 18, Page 63.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

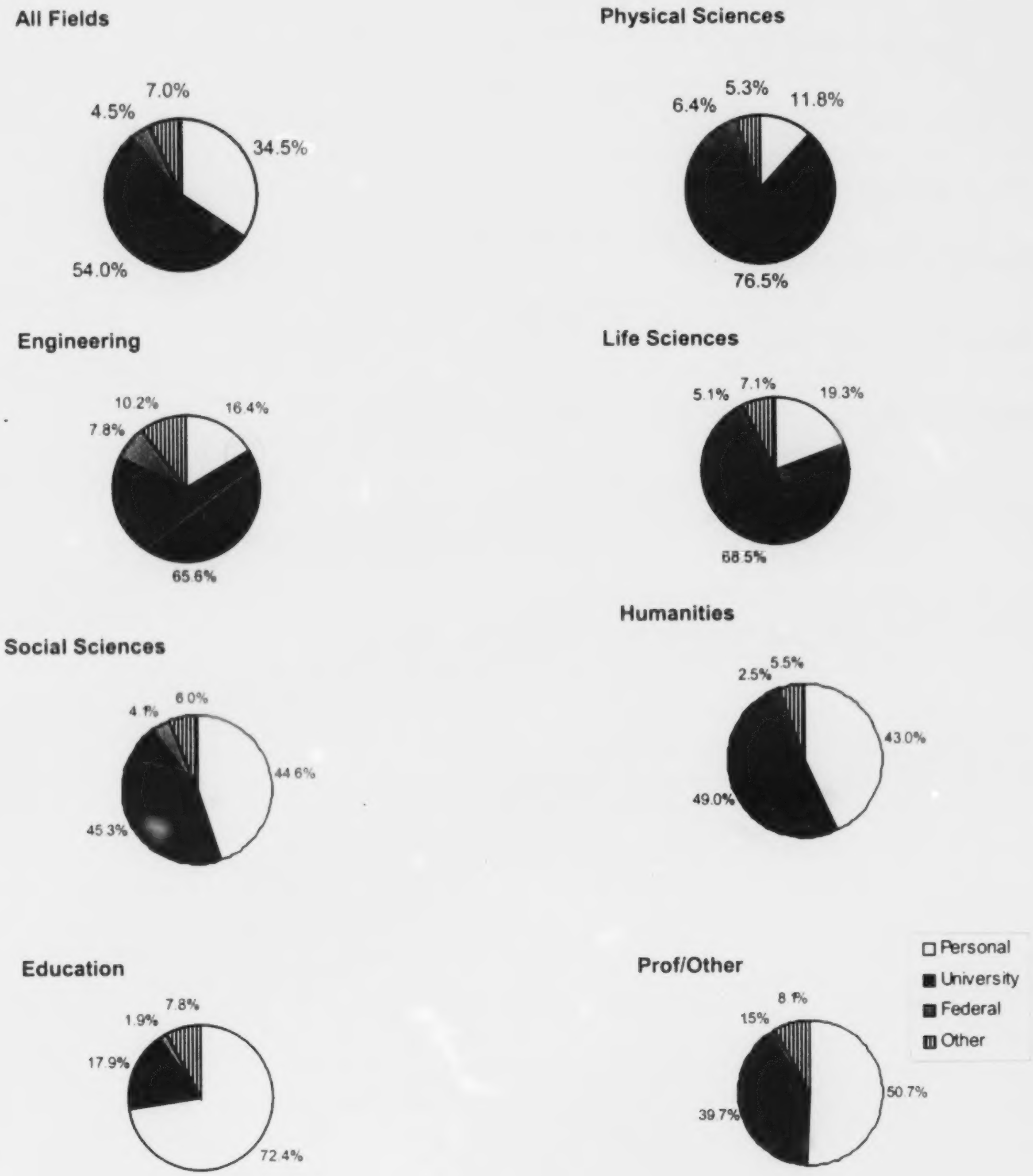
With regard to broad field of study, over 50 percent (51.1 percent) of doctorate recipients in the physical sciences (including mathematics and computer science), earn their degrees by age 30. In engineering that percentage is 46.3; for the life sciences and social sciences, it is 39.5 and 33.0, respectively. By contrast, only 21.3 percent of humanities recipients have their degree by age 30, with more than half (53.3 percent) of the degrees being awarded to recipients in their 30s. In education, only 6.8 percent earn their doctorate by age 30; almost 45 percent of education doctorates go to those over the age of 45. In the professional/other category, 15.5 percent of doctorates are awarded to those age 30 and younger.

Financial Support. About a third (34.5 percent) of 1997 doctorate recipients reported that their personal or family resources, which includes borrowing, savings, and part-time non-academic earnings, were the primary sources they used to finance their doctoral studies. More than half—53.9 percent—received the majority of their support from such program- or institution-based sources as university fellowships or teaching and research assistantships. Federal, state, foreign government, and employer contributions were the principal sources of financial support for the remaining 11.5 percent of the cases. (See Figure 14 and Table 19.)

Overall, women were more dependent on personal resources than were men (43.2 percent versus 28.6 percent), and U.S. citizens more than those on permanent or temporary visas. However, such statistics are influenced enormously by field of study, where there are such decidedly different patterns and expectations with regard to graduate financial aid, rendering aggregate comparisons virtually meaningless. For example, within the physical sciences (including mathematics and computer sciences), 76.5 percent of doctoral recipients reported university funds as their primary source of financial assistance, and the percentages for men and women were almost identical. In addition, international students are more highly concentrated in academic programs—S & E fields—where traditionally the vast proportion of doctoral students receive financial aid, and teaching and research assistantships are prevalent; that they would report lower percentages in using their own resources is not surprising.

Furthermore, since international students are not eligible for many sources of support—NIH traineeships, NSF fellowships, other agency or private fellowship competitions, participation in U.S. government loan programs—and visa restrictions limit off-campus employment (and spousal employment), non-U.S. citizens (that is, those on permanent or temporary visas) are more reliant on university sources of support than are U.S. citizens within every broad field of study.

Figure 14
Primary sources of financial support for doctorate recipients, 1997



See Table 19, Page 64.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Across the physical sciences, life sciences, and engineering, between two-thirds and three-fourths of 1997 doctorate recipients listed university-based aid as their principal form of support, with the summation of personal sources around 15 percent. In the humanities and social sciences, university and personal sources were both listed for about 45 percent of the students. In education, where part-time enrollment and extended time periods (see above under time to degree) are more common, almost three-fourths of doctoral recipients relied on their own resources to complete their degrees.

With regard to loans as a source of financial aid, 49.1 percent of doctorate recipients reported some level of educational indebtedness at completion of the Ph.D. (See Tables 20 and 21.) The corresponding figure for 1996 was 47.7 percent; it was 47.3 percent in both 1995 and 1994. The survey loan question does not distinguish between undergraduate and graduate education. Also, it is not possible to attribute any specific dollar level or percent participation in official loan programs versus interfamilial support, formal or informal. Furthermore, non-U.S. citizens are not eligible to borrow from Federal or other governmental loan programs, which influences aggregate participation figures.

Finally, the question does not address whether a student had incurred high levels of debt for earlier education, perhaps for his or her undergraduate studies, but had paid them off by the time of entrance into graduate school. For doctoral students in education, whose time to degree is lengthy and part-time enrollment traditional, even prior graduate school loans might have been retired by the time the doctorate was awarded. Thus, reported educational indebtedness can both overstate and understate the extent of borrowing as a source of financial aid. (The *1998 Summary Report* will examine these indebtedness issues in more detail.)

As expected, loan indebtedness varies by citizenship and field of study. It does not vary significantly by sex. Variations in indebtedness by racial/ethnic category, like overall variations in the sources of graduate financial aid (see discussion above, Figure 14, and Table 19), must be viewed in the context of field distributions.[5]

Of those who borrow, 40.5 percent have debt levels of $10,000 or less; 24.6 percent indicated indebtedness between $10,000 and $20,000; 14.3 percent had outstanding loans of $20,000 to $30,000; and 20.4 percent owed at least $30,000.

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[5] Rapoport, Alan I. "What is the Debt Burden of New Science and Engineering Ph.D.s?" Issue Brief, NSF 98-318, National Science Foundation, Division of Science Resources Studies. Arlington, VA. July 8, 1998.

Postgraduation Status and Plans. For the 1997 survey year, 88.3 percent of doctorate recipients provided information on their postgraduation plans. This percentage is lower than for 1996 (90.9 percent) and continues the slight downward trend over time (20 years ago the overall figure was 93.7 percent, but for the S&E fields it was 90.4 percent). More than two-thirds—67.4 percent—of new doctorate recipients reported definite commitments for employment or continued study; in 1996 the corresponding figure was 67.5 percent. (See Tables 22 and 23. Note that in these two tables, "definite" and "seeking" are the only distinctions allowed, so the percentages for a given year are not independent and thus will sum to 100 percent for field, sex, citizenship, or race/ethnicity; the same is true for the absolute numbers in Tables 24 and 25.)

Humanities doctorate recipients revealed the lowest percentage (56.3 percent) of definite postgraduate plans, and education the highest (72.8 percent). The part-time enrollment and the lengthy time-to-degree period in education probably mean that many recipients were already employed in their profession at the time they received their degrees. Men and women indicated similar commitment rates (the small difference observed is attributable to field-of-study distributions); non-U.S. citizens had lower percentages; and among U.S. citizens, Asian Americans had the lowest commitment rate of the four racial/ethnic groupings.

Of those doctorate recipients reporting definite commitments, approximately 72 percent will work and 28 percent will continue their studies. The 72 percent figure is slightly higher than in recent years (which have generally been around 70.5 percent), but the overall percentage is highly sensitive to the distribution of fields of study. In academic fields where formal postdoctoral training is expected, such as in the life sciences, the employment figure drops to 38.7 percent, whereas in the humanities, education, and professional fields, it averages about 95 percent. Field distributions also account for most of the observed variation by sex, citizenship, and race/ethnicity. (See Tables 22 and 23.)

Table 26 contains data on the postdoctoral location—United States or elsewhere—for doctorate recipients by citizenship, visa status, and broad field of study. A discussion of some of these data is contained in the special section on international doctorate recipients that follows.

Employment. For U.S. citizens and those holding permanent visas, 49.1 percent of those with firm employment commitments noted academe as their planned work sector. About one-fourth, 24.7 percent, indicated industry or self-employment; 7.3 percent said some level of government; the remaining 18.9 percent checked "other." There was considerable variation by field of doctorate, with more than three-fourths of those in the humanities with an academic position but only 15.4 percent of engineering doctorate recipients intending to work in academe.

A Profile of International Students

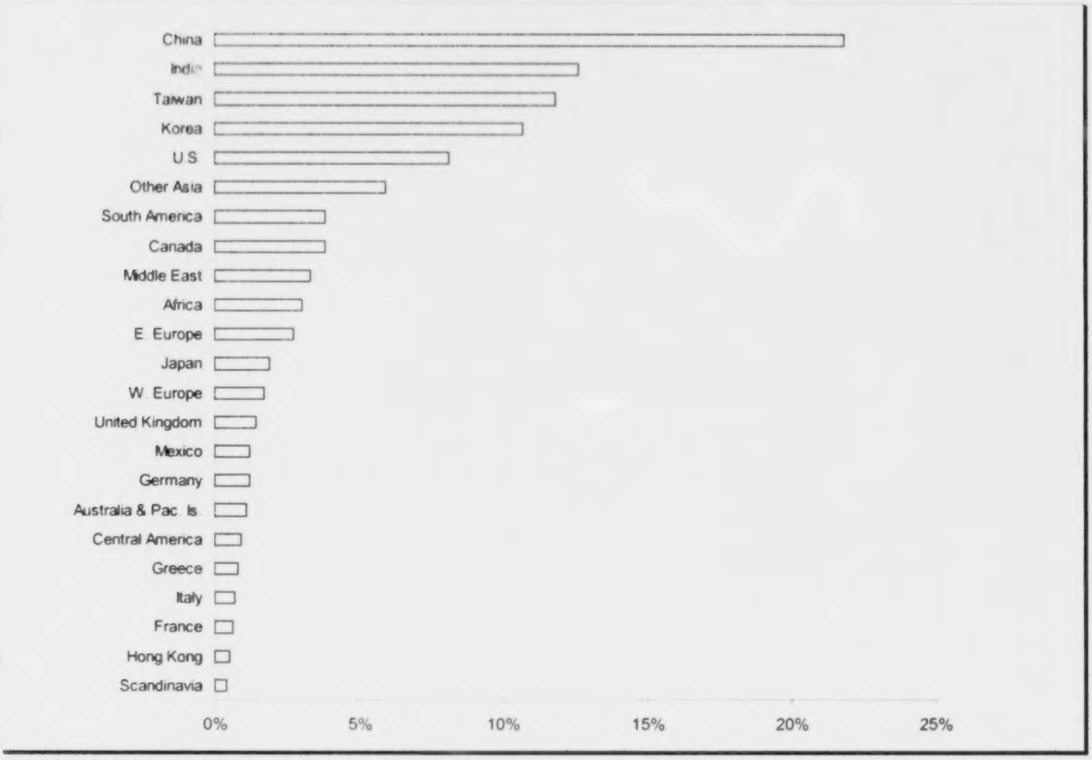
As noted in the main section of this report, the higher than normal non-response rate to the citizenship question on the 1997 Survey of Earned Doctorates makes some of the percentages and trends difficult to know with sufficient certainty. These data include the number and distribution of non-U.S. citizen doctorate recipients, the one-year and five-year trends, distributions by country and/or institution, and post-graduation plans. The 1997 total of 3,647 (8.5 percent) missing citizenship identifiers exceeds the previous high of 2,652 (7.7 percent) in 1989. However, as discussed below, careful examination and manipulation of the summary figures offer acceptably reliable information for some data series, including the areas noted. In addition, this section contains material not found in previous summary report discussions or tables.

Demographic Profile. The vast majority of non-U.S. citizens who received their doctorates from U.S. universities began their college careers outside the United States, a not unexpected finding. Only 8 percent of non-U.S. citizens who were awarded research doctorates in 1997 began their undergraduate studies at a U.S. college or university. In absolute numbers, however, that means approximately 1,000 non-U.S. citizen doctorate recipients started college in the United States. Countries with 25 or more doctorate recipients who also studied in the United States as undergraduates were India (57 recipients), Iran (56), Canada (45), Korea (39), Malaysia (35), China (31), Hong Kong (30), Japan (28), and the United Kingdom (25). Nearly 60 percent began their collegiate studies in Asia (with 22 percent in China, 13 percent in India, 12 percent in Taiwan, and 11 percent in Korea). (See Figure 2-1 and Table 2-1.)

China continues to be the nation of citizenship for the largest number of non-U.S. citizen doctorate recipients. (See Table 14.) India, Taiwan, Korea, and Canada round out the top five countries, and these five account for more than half of all non-U.S. citizen doctorate recipients in 1997. The list of the top 30 countries remains almost identical to that for 1996, with Australia and the Republics of the former Yugoslavia being the only two new entrants (replacing Sri Lanka and Nigeria).

Figure 2-1

Country/region of undergraduate college entry for 1997 non-U.S. citizen Ph.D. recipients

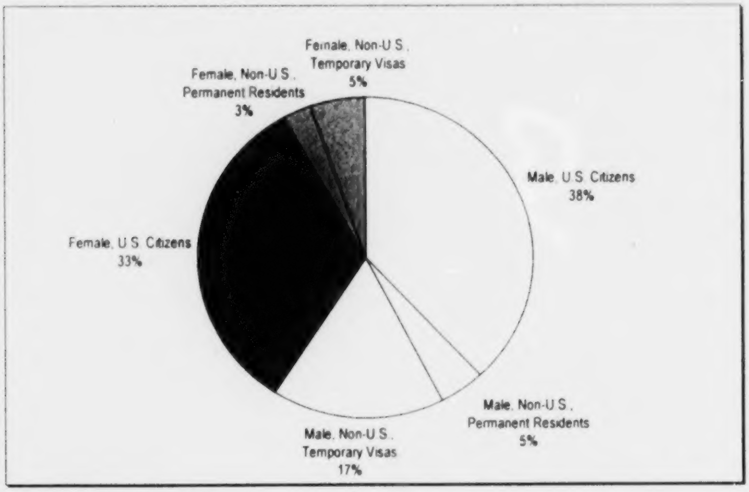


See Table 2-1, Page 72.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Female non-U.S. citizens have increased their share of all doctorates significantly since 1970. Although large in terms of the percentage increase, in absolute numbers the current level of international females remains relatively small, with non-U.S. women being awarded only 7 percent of research doctorates in 1997. Sex differences are in part related to differences in field of study, where the areas most populated by international students, S & E fields, historically have large concentrations of males. (See Figures 2-2 and 2-3 for the distribution of 1997 doctorate recipients by citizenship status and sex.)

Figure 2-2

1997 Ph.D. recipients by citizenship status and sex

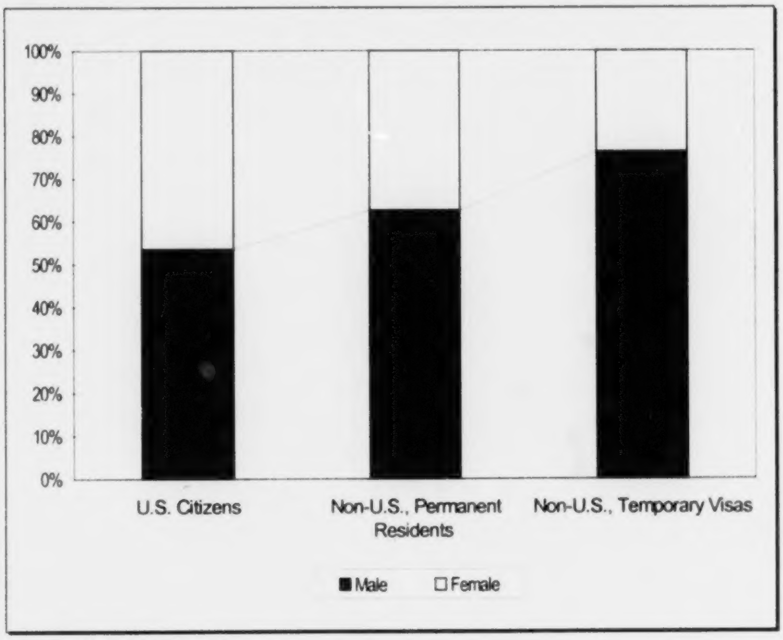


See Table 2-2, Page 72.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Figure 2-3

Sex of 1997 Ph.D. recipients by citizenship status

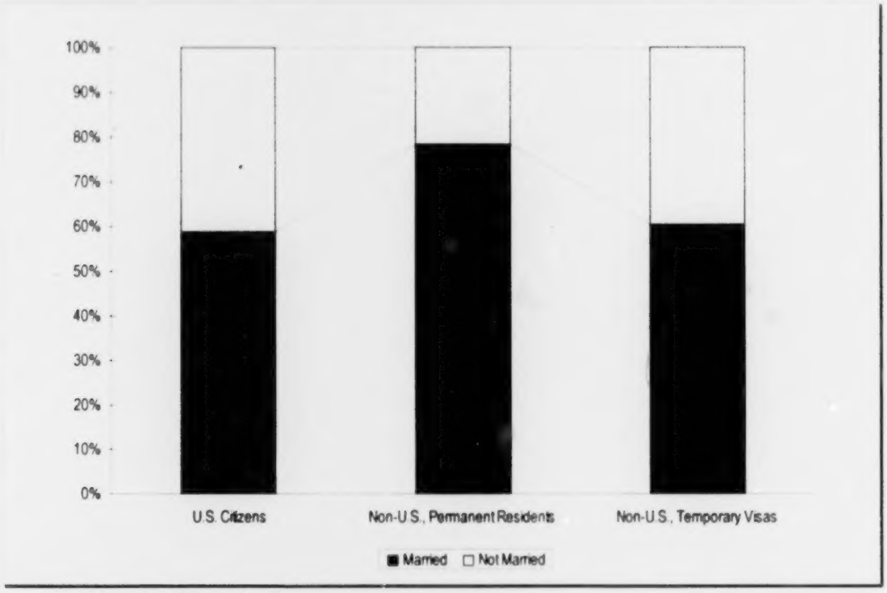


See Table 2-2, Page 72.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Of those with known marital status, 61 percent of doctorate recipients in 1997 were married (marital status is unknown for 11.4 percent of recipients). Non-U.S. citizens who were permanent residents reported a higher rate of marriage (78 percent) than U.S. citizens (59 percent) or those with temporary visas (60 percent). (See Figure 2-4.)

Figure 2-4
Marital status of 1997 Ph.D. recipients by citizenship status

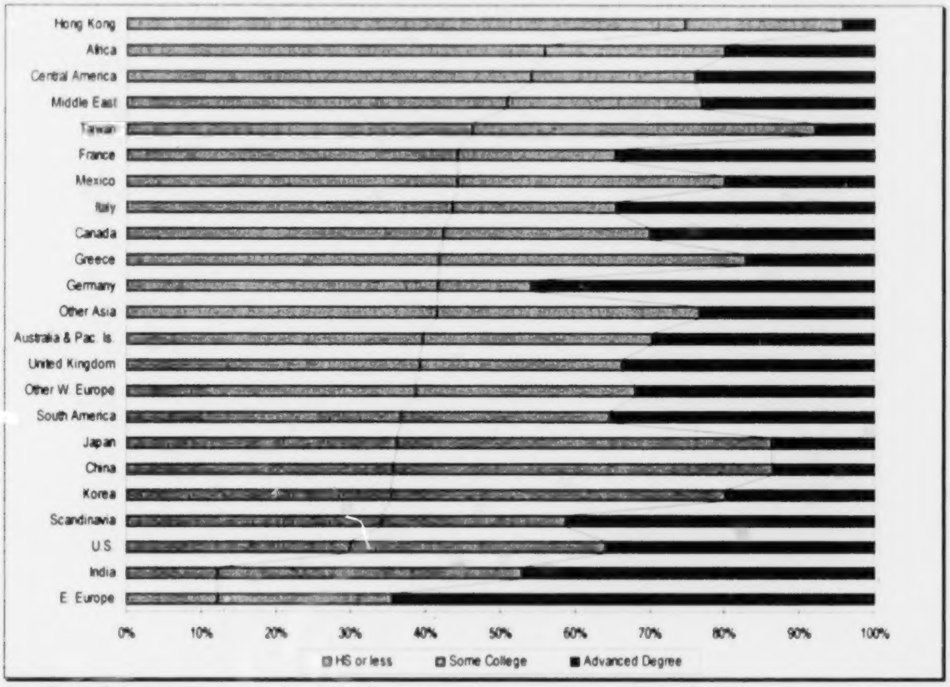


See Table 2-3, Page 72.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Thirty percent of U.S. citizens who earned doctorates in 1997 reported that their fathers had only a high school diploma or had not completed high school; students from Japan and the Scandinavian region reported similar proportions of fathers with a high school education only (36 percent and 34 percent, respectively). Recipients from Western European countries, Australia, and Canada reported higher proportions of fathers with less formal education, ranging from 39-45 percent of respondents who provided information on family educational backgrounds. Doctorate recipients from geographic regions with developing economies—the Middle East, Central America, and Africa—reported the highest proportions of fathers with a high school diploma or less. Perhaps surprisingly, recipients from Hong Kong reported the highest proportion—approximately 75 percent—in this category; China had the same proportion as U.S. citizens. At the other end of the educational spectrum, doctorate recipients from Eastern Europe and India had the smallest proportions of fathers with a high school education or less. (See Figure 2-5.)

Figures 2-5

Father's educational attainment by country of citizenship for 1997 Ph.D. recipients



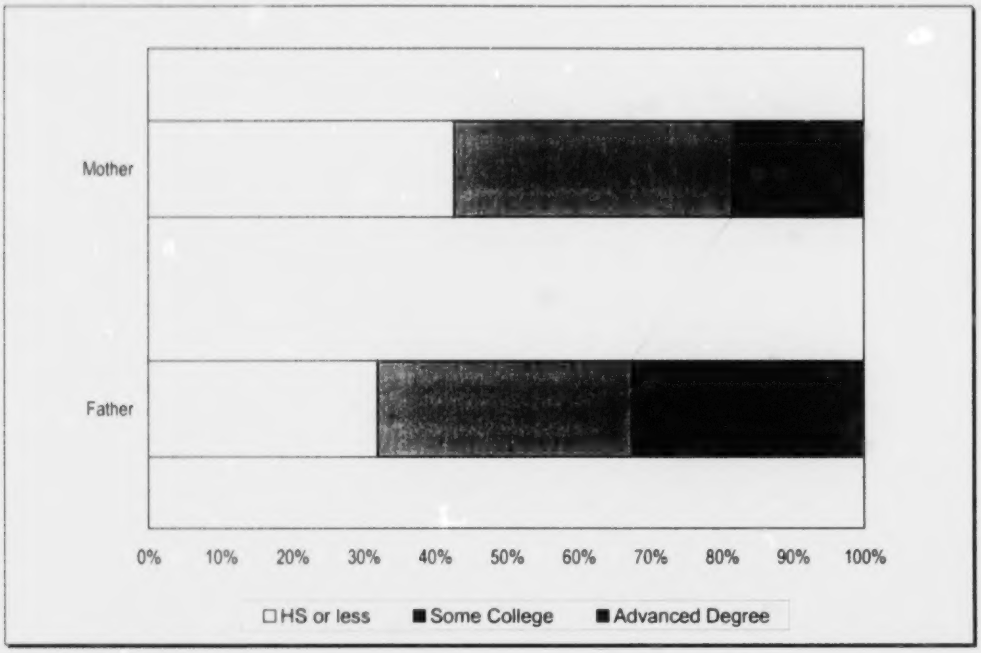
See Table 2-4, Page 73.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

The proportion of fathers with more formal education than high school—those earning an M.A., Ph.D. or professional degree—was 36 percent for U.S. citizens. Scandinavia, Germany, and India exceeded this level, and Eastern European doctorate recipients reported the highest proportion of their fathers with advanced degrees—65 percent.

Regardless of citizenship status, mothers of doctorate recipients have less formal education than the fathers. (See Figure 2-6.) Forty three percent of mothers, compared with 32 percent of fathers, had a high school education or less. Almost twice as many fathers as mothers (33 percent versus 18 percent) had earned advanced degrees. Mothers of doctorate recipients from the United States had, in general, more formal education than mothers of international recipients. Only 37 percent of U.S. doctorate recipients reported that their mothers had a high school education or less; Eastern Europe was the only region with a lower percentage in this category (17 percent). (See Figure 2-7.)

Figure 2-6

Parents' educational attainment by sex for 1997 Ph.D. recipients

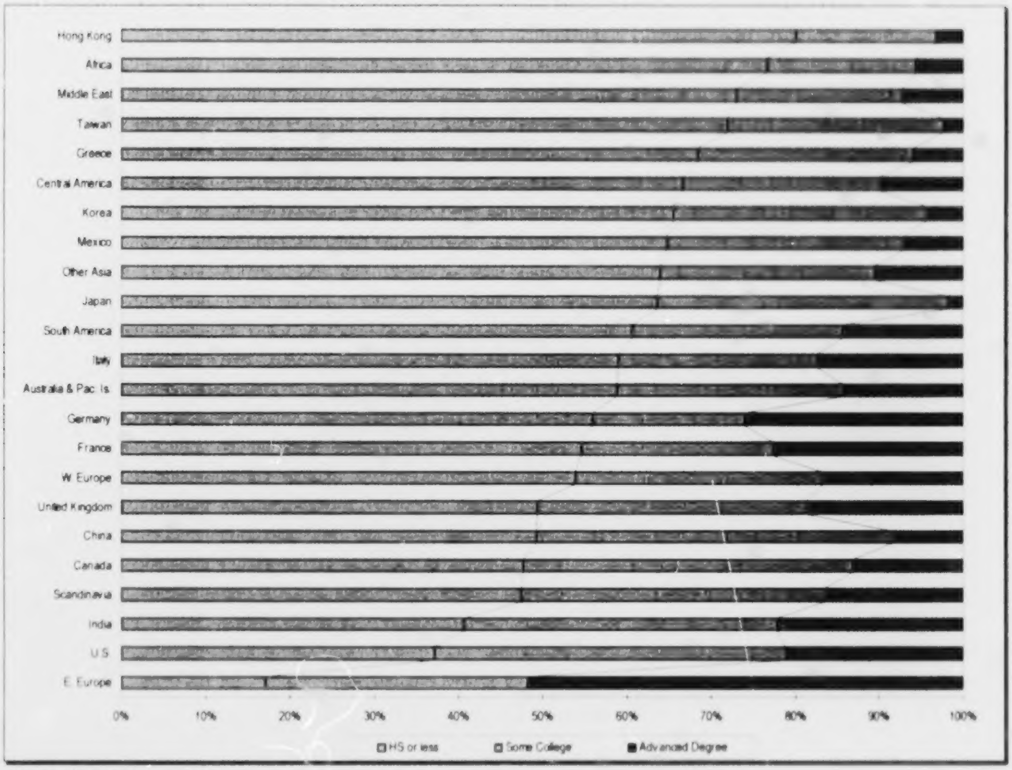


See Table 2-5, Page 73.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Totals, Trends, and Distributions. Table 12 provides basic aggregate and broad-field summary statistics by citizenship. Because of the number of citizenship responses missing, it appears that the number of non-U S. citizens receiving doctorates declined from 13,275 in 1996 to 11,390 for 1997. In fact, the 1997 figure would then represent the lowest one-year total since 1992 (11,846). As noted in the main report, these conclusions undoubtedly result from the non-response, and a non-response bias, with regard to known citizenship for 1997 doctorate recipients.

Figure 2-7

Mother's educational attainment by country of citizenship for 1997 Ph.D. recipients



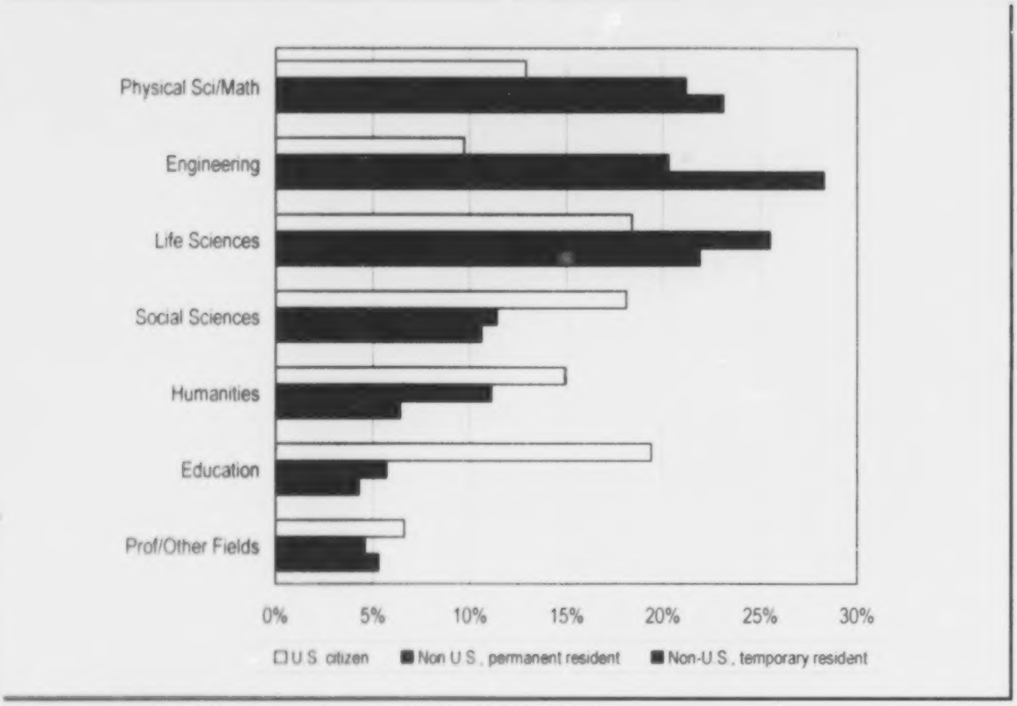
See Table 2-6, Page 74.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

In 1997, the S & E fields granted 65 percent of all doctorates. For U.S. citizens, 59.1 percent of the total doctorates awarded were in those fields; for permanent residents, 78.4 percent of their total were awarded in those fields; and for doctorate recipients on temporary visas, 83.9 percent of their total were in those fields. Within the four S & E categories, the largest number doctorates were granted in the life sciences. For U.S. citizens the largest single field was education, with the life and social sciences close behind. For permanent residents, the life sciences represented the largest broad field of study, followed by the physical sciences and engineering. Temporary visa holders earned more degrees in engineering, then the physical and life sciences. (See Figure 2-8).

Figure 2-8

Broad field of study by type of citizenship for 1997 Ph.D. recipients



See Table 2-7, Page 74.

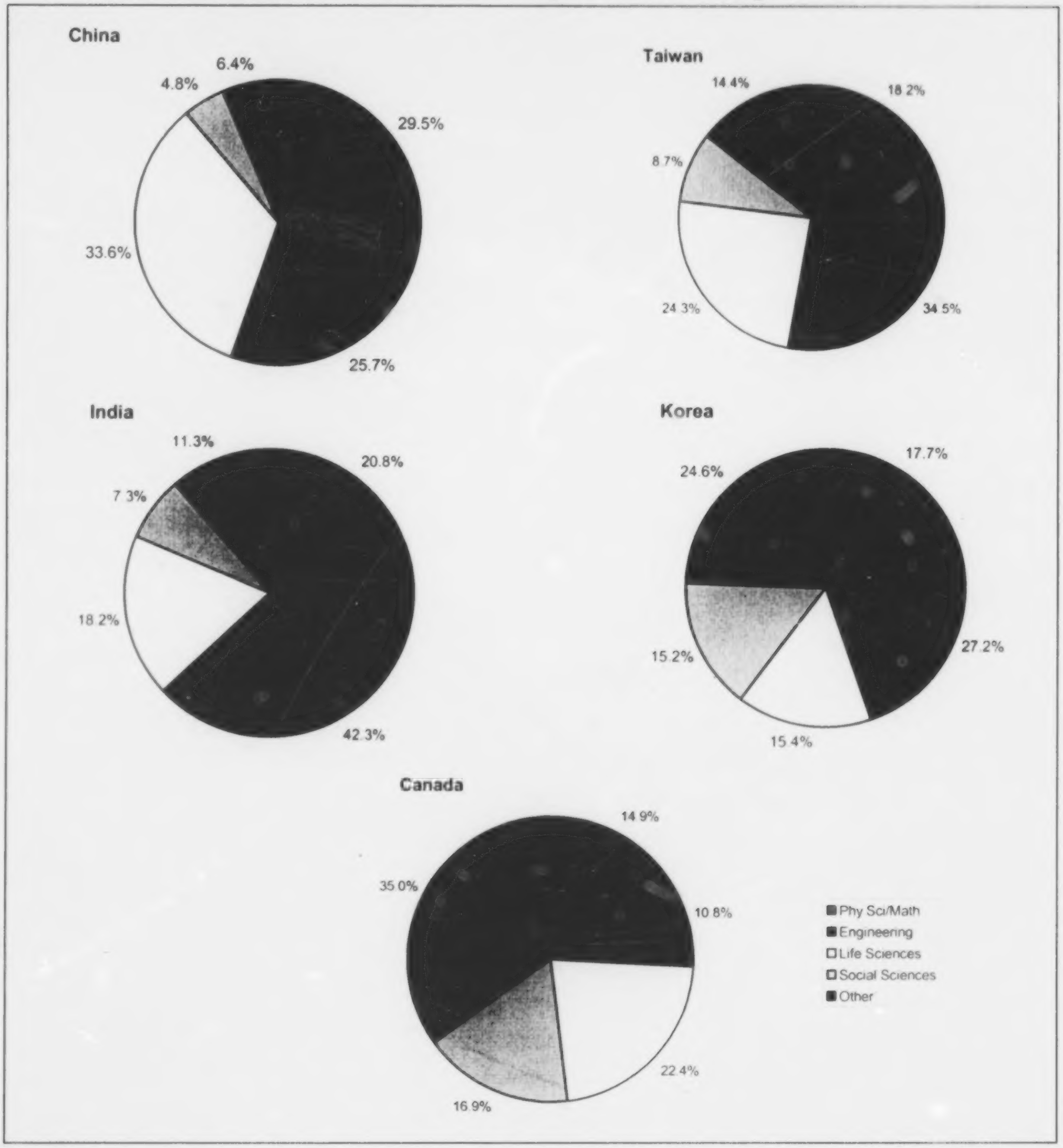
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Because international doctoral students are more concentrated in S & E disciplines than are U.S. students, and they vary in terms of representation within those four broad fields, such disproportionate representations must be factored into consideration of other dimensions of the student and the process. For example, graduate financial aid, sex, time to degree, and postgraduate decisions all vary by broad field of study. The differences by citizenship observed may simply reflect the choice of major field.

For the five largest countries of origin for non-U.S. citizen doctorate recipients—China, Taiwan, India, Korea, and Canada—30.2 percent of the degrees were awarded in engineering, followed by the life sciences (24.9 percent) and physical sciences (22.7 percent), although there is considerable variation among countries (see Figure 2-9).

Figure 2-9

Distribution of international doctorate recipients by broad field of study for leading countries of origin, 1997



See Table 2-8, Page 75.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

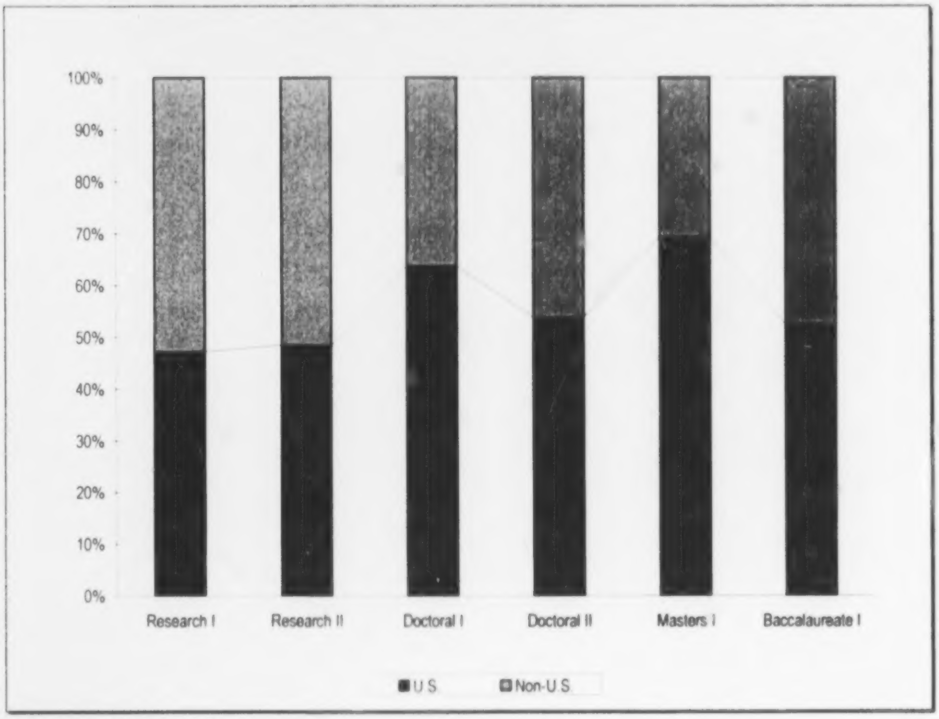
Distribution by Institution. More than two-thirds (67.4 percent) of all doctorate recipients earn their degrees at one of the 88 Research I (Carnegie classification) institutions. The 1997 SED data reveal that international students are more likely to receive their Ph.D.s from Research I universities than are U.S. citizens, 73.5 percent to 66.7 percent, respectively. (See Figure 2-10.) While 30 institutions account for approximately 35 percent of all doctorates awarded annually, the concentration is significantly higher for non-U.S. citizens: 30 institutions grant 50 percent of all doctorates awarded to international students, with the University of Wisconsin-Madison and the University of Texas-Austin having the largest totals. (See Table 15A for the top 25 institutions in terms of the absolute numbers of international doctorates awarded.) In terms of proportions of international doctorates, 18 institutions granted more than 50 percent of their doctorates to non-U.S. citizens; of those awarding at least 25 doctorates, New Jersey Institute of Technology and Polytechnic University in New York had the largest percentage of international doctorates. (See Table 15B.)

International students may be disproportionately represented in Research I universities for many reasons, including perceived prestige or name recognition abroad, size of the institution, the possibility of more financial aid, and/or simply because of the academic fields represented in Research I institutions. For example, if Research I universities have larger programs in the S & E fields, the fields in which international students are more likely to be enrolled (because of their own or their home countries' preferences), this could produce the observed skewness. Indeed, 74.5 percent of all S & E doctorates are awarded by Research I institutions; for doctorates granted in non-S&E fields, Research I institutions grant 61.7 percent.

Time to Degree. However time to degree is measured—elapsed time since the baccalaureate (TTD), registered time in the doctoral program (RTD), or age at receipt of the doctorate—international students (those with temporary visas) take 1-2 years less than U.S. citizens and permanent residents. The aggregate numbers are 10.7 years for U.S. citizens, 11.3 years for permanent residents, and 9.7 years for those holding temporary visas. Once these figures are corrected for field of study, the field-specific TTD figures converge and/or change rankings. In all four broad S & E fields, TTD is less for U.S. citizens than for either permanent residents or temporary visa holders. The same holds for RTD. (See Table 17.)

Figure 2-10

1997 Ph.D. recipients by degree-granting institution's Carnegie classification and by citizenship status

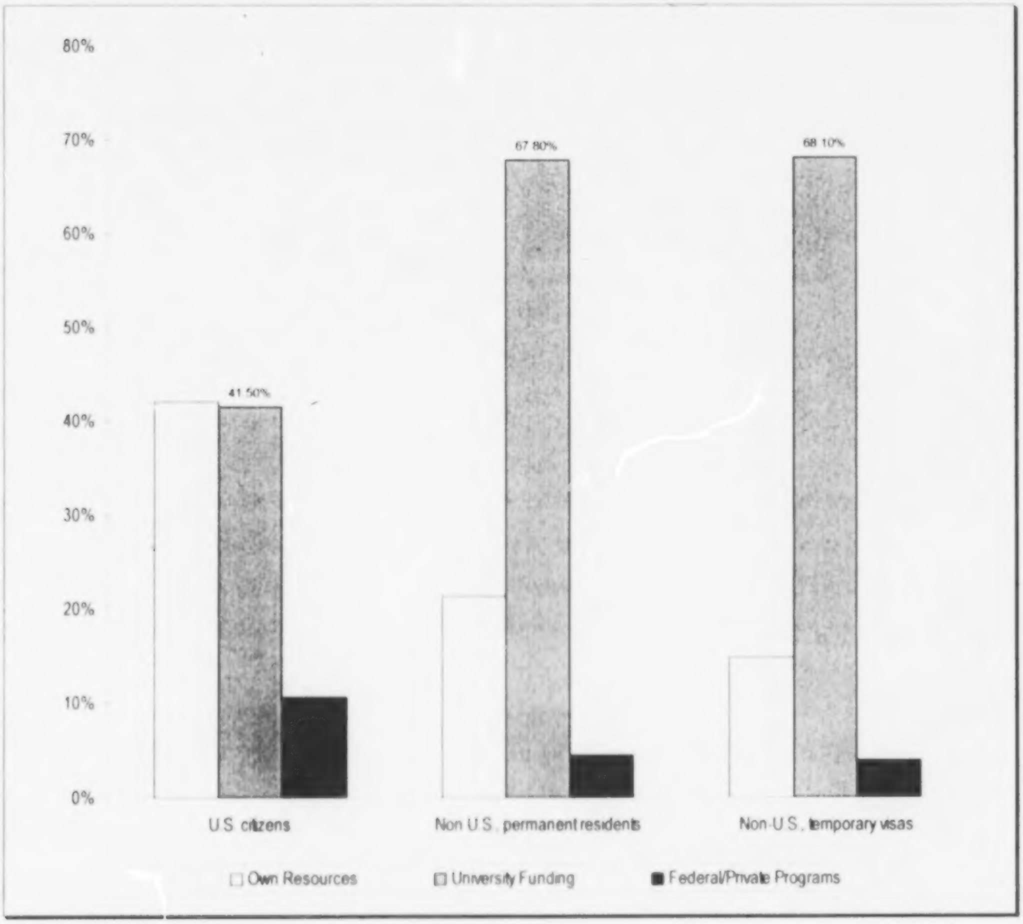


See Table 2-9, Page 75.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

The same pattern emerges when considering average age at award of the doctorate. For example, the median age at receipt of doctorate for international students is 32.3 years; for U.S. citizens and permanent residents, the median age is 34.2 and 34.0 years, respectively. With regard to dispersion around that median, overall about a fourth of doctorate recipients received their degree at least 15 years after completing their baccalaureate work; about 32 percent of U.S. citizens and permanent residents had an elapsed time of 15 years or more, compared with 8 percent for those holding temporary visas. Within S & E fields, U.S. citizens and permanent residents seem to be disproportionately represented in the tails of the distributions—a higher percentage finish within 6 years of the baccalaureate and a larger percentage also take at least 15 years; international students are more concentrated in the middle ranges. The extent to which this reflects differences in focus, financial constraints, or visa restrictions cannot be discerned from the data.

Financial Support. Overall, 34.5 percent of doctorate recipients reported using their own resources (including spousal and family)—loans, savings, and part-time non-academic earnings—as the primary source to finance their doctoral studies. More than half of them (53.9 percent) received the majority of their support from program- or institution-based sources (university fellowships, and teaching and research assistantships). Federal, state or foreign government and employer contributions account for the remainder (11.5 percent). (See Figure 2-11 and Table 19.)

Figure 2-11
Primary source of support by type of citizenship
for 1997 Ph.D. recipients



See Table 19, Page 64.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

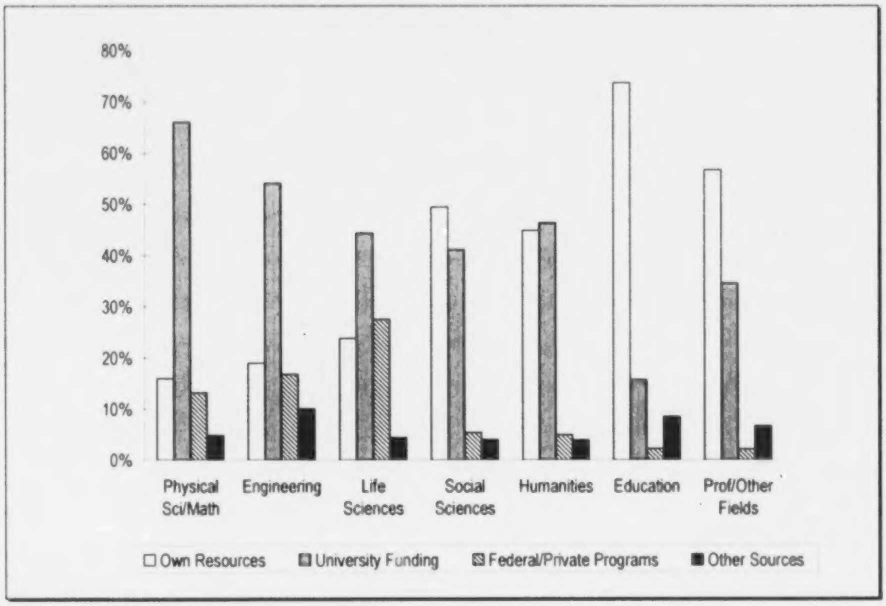
Non-U.S. citizen doctorate recipients reported higher rates of support through university-based funding than did U.S. students: 72.2 percent of students with permanent visas and 71.0 percent of students on temporary visas reported receiving university fellowships, teaching assistantships, or research assistantships as their primary source of graduate financial aid. U.S. citizen doctorate recipients listed those sources only 46.7 percent of the time. (See Table 19.) Since international students are not eligible for such sources of graduate support as NIH traineeships, NSF fellowships, and other national fellowship competitions, and in many instances spouses are also not allowed to work, their reliance on institutional support is not unexpected. Furthermore, visa application regulations preclude an international student being able to meet cost-of-education requirements with borrowing or off-campus employment. The implication of these restrictions is that program- or university-based financial aid is guaranteed at the outset. In addition, international students are more heavily concentrated in the S & E fields, where the vast proportion of doctoral students receive support; teaching and research assistantships are the traditional sources in those fields.

Overall, 42.1 percent of U.S. citizen doctorate recipients reported that their own resources constituted their principal means of support. Within broad field area, this source was listed by only 15.8 percent of American doctoral students in the physical sciences, by 18.4 percent in engineering, and by 23.5 percent in life sciences. On the other hand, 49.3 percent of domestic social sciences doctoral students and 45.5 percent of U.S. students in the humanities relied principally on their own (and/or family) financial resources. For permanent residents and those on temporary visas in the physical and life sciences and engineering, personal and/or family resources were the main source of support less than 10 percent of the time. (See Figure 2-12 and Table 19.)

In terms of program- or institutional-based aid, in the physical and life sciences and engineering, about one-fourth of U.S. students (25.6 percent), permanent residents (24.4 percent), and those on temporary visas (27.2 percent) relied on teaching assistantships as the principal source of support. U.S. citizens were more likely to hold university fellowships, while non-U.S. citizens were more likely to have research assistantships. In the humanities and social sciences, where teaching assistantships are the most prevalent form of support, the distribution of support by citizenship category is remarkably similar, with approximately 60 percent of students receiving their main graduate financial aid from this source; only about one-fourth held university fellowships, and one-sixth were given research assistantships.

Figure 2-12A

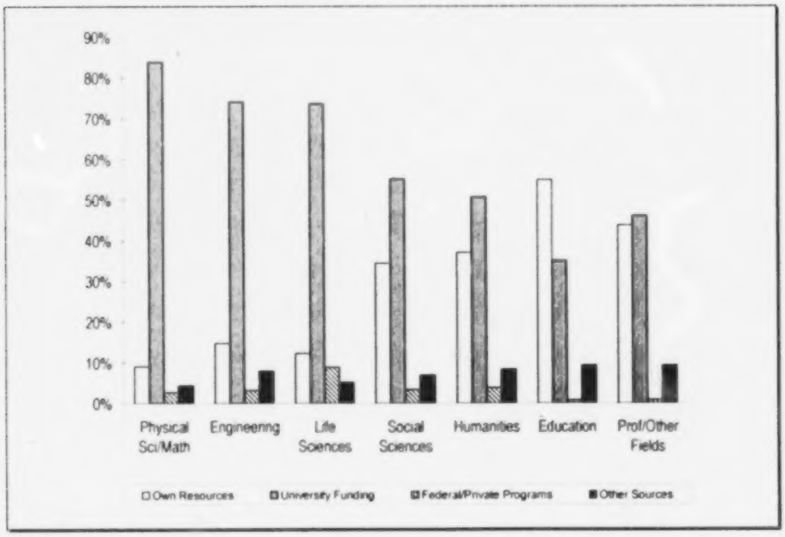
Primary source of support by broad field for U.S. citizen 1997 Ph.D. recipients



See Table 19, Page 64.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

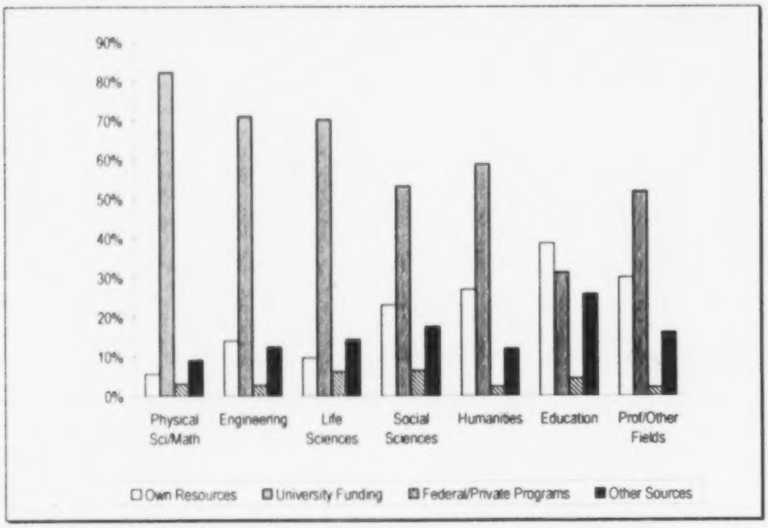
Figure 2-12B
Primary source of support by broad field for non-U.S. permanent resident 1997 Ph.D. recipients



See Table 19, Page 64.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Figure 2-12C
Primary source of support by broad field for non-U.S. temporary visa holder 1997 Ph.D. recipients



See Table 19, Page 64.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Postgraduation Plans. Of the 9,803 non-U.S. citizen doctorate recipients who provided a postdoctoral location, 68.8 percent indicated that they would remain in the United States for employment or continuing study; of those with definite commitments, 73.6 percent intended to remain in the United States—97.7 percent for permanent residents and 67.5 percent of those on temporary visas. (see Tables 26 and 27).[6] However, this incidence differed by country of citizenship, ranging from a high of 95 percent for China and 91 percent for India down to 39 percent for Korea. In absolute numbers of international doctorate recipients planning to remain in the United States immediately after receipt of the degree, the five countries with the largest numbers were China (1,976); India (1,131); Taiwan (639); Korea (387); and Canada (239). (See Figure 2-13.)

Whereas one-fourth of U.S. citizen doctorate recipients with definite commitments indicated that they were continuing their studies after receipt of the Ph.D., 33.8 percent of permanent residents and 39.0 percent of those holding temporary visas reported immediate plans for study instead of employment. Of those planning to remain in the United States, 34.9 percent of permanent residents and almost half (48.3 percent) of those on temporary visas indicated plans for postdoctoral study rather than employment as their immediate commitment. (See Tables 26 and 27.)

About 27 percent (2,661) of non-U.S. citizen doctorate recipients indicated plans to return to their home country. Of the nearly 10,000 international doctorate recipients who indicated a postdoctoral location, fewer than 400 (395) of those not returning to their home country were bound for somewhere other than the United States; in other words, 94.5 percent of the non-U.S. citizen doctorate recipients planned to remain in the United States.

Only Korea and Mexico had immediate "return rates" that exceeded 50 percent (59.5 percent and 51.0 percent). China and India had the lowest return rates (2.2 percent and 5.6 percent) of any country.

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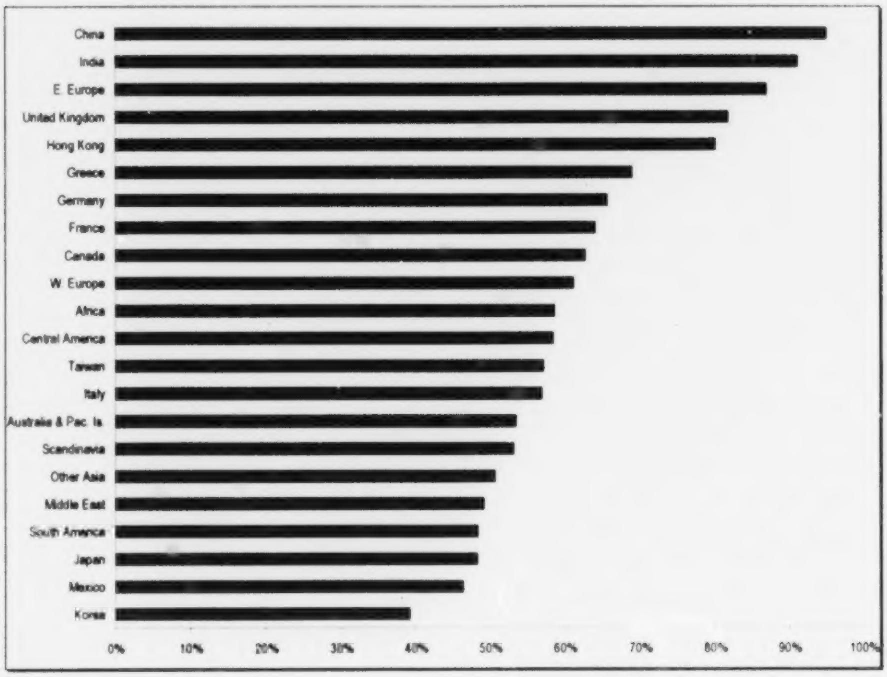
[6] With respect to postdoctoral activity and location, the survey does not distinguish short-term versus long-term plans or expectations. An "immediate" plan or commitment could thus be temporary.

Figure 2-13

Percent of 1997 Ph.D. recipients who report U.S. as postdoctoral location by country of citizenship



See Table 2-10, Page 76.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

DATA TABLES

SURVEY OF EARNED DOCTORATES
1996-1997

LIST OF TABLES

Page

1 Doctorates Awarded by U.S. Colleges and Universities, 1956-1997 49
2 Annual Percentage Change in Doctorates Awarded by U.S. Colleges and Universities, 1956-1997 49
3 Doctorates Awarded by U.S. Colleges and Universities per Institution,1961-1997 50
4 Distribution of Graduate Institutions and Doctoral Degrees by Carnegie Foundation Classification 50
5 Major Field of Doctorate Recipients for Selected Years, 1967-1997 51
6 Sex of Doctorate Recipients, by Broad Field for Selected Years, 1967-1997 52
7 Women as a Percentage of all Doctorate Recipients from U.S. Colleges and Universities, 1921-1997 53
8 Race/Ethnicity of U.S. Citizen Doctorate Recipients, by Broad Field for Selected Years, 1977-1997 54
9 Major Field of U.S. Citizenship Ph.D.s by Race/Ethnicity, 1997 55
10 Leading U.S. Baccalaureate Institutions of U.S. Minority Ph.D.s, 1993-1997 56
11 Leading Ph.D. Institutions of U.S. Minority Ph.D.s, 1993-1997 57
12 Citizenship Status of Doctorate Recipients, by Broad Field for Selected Years, 1967-1997 58
13 Visa Status of Ph.D.s from China Versus Other Non-U.S. Citizens, 1990-1997 59
14 Top 30 Countries of Origin of Non-U.S. Citizens Earning Ph.D.s at U.S. Colleges and Universities, 1997 59
15a Leading Ph.D. Institutions of Non-U.S. Citizen Ph.D.s, 1997 (ranked by number of Ph.D.s) 60
15b Leading Ph.D. Institutions of Non-U.S. Citizen Ph.D.s, 1997 (ranked by percentage of foreign-born Ph.D.s) 60
16 Median Years from Baccalaureate to Doctorate Award, by Broad Field for Selected Years, 1972-1997 61
17 Median Years from Baccalaureate to Doctorate Award, by Demographic Group and Broad Field, 1997 62
18 Distribution of 1997 Doctorate Recipients by Age at Doctorate 63
19 Primary Sources of Financial Support for Doctorate Recipients, by Broad Field and Demographic Group, 1997 64
20 Cumulative Debt Related to the Education of Doctorate Recipients, by Broad Field, 1997 65
21 Cumulative Debt Related to the Education of Doctorate Recipients, by Demographic Group, 1997 65
22 Postgraduation Status of Doctorate Recipients, by Broad Field for Selected Years, 1977-1997 66
23 Postgraduation Status of Doctorate Recipients, by Demographic Group for Selected Years, 1977-1997 67
24 Postgraduation Commitments of Doctorate Recipients, by Type of Plans and Broad Field for Selected Years, 1977-1997 68
25 Postgraduation Commitments of Doctorate Recipients, by Type of Plans and Demographic Group for Selected Years, 1977-1997 69
26 Postdoctoral Location of Non-U.S. Citizen Doctorate Recipients with Postgraduation Commitments, by Major Field and Visa Status, 1997 70
27 Postdoctoral Location of Non-U.S. Citizen Doctorate Recipients with Postgraduation Commitments, by Visa Status for Selected Years, 1977-1997 71
2-1 Non-U.S. Citizen Doctorate Recipients who Began Their Undergraduate Studies in the United States, by Leading Country 72
2-2 Doctorate Recipients by Citizenship Status and Sex 72
2-3 Doctorate Recipients by Marital Status and Citizenship 72
2-4 Educational Attainment of Fathers of 1997 Doctorate Recipients, by Citizenship 73
2-5 Comparison of Fathers' and Mothers' Levels of Educational Attainment for 1997 Doctorate Recipients, by Citizenship 73
2-6 Educational Attainment of Mothers of 1997 Doctorate Recipients, by Citizenship 74
2-7 Doctorate Recipients by Broad Field and Citizenship 74
2-8 1997 International Doctorate Recipients by Broad Field and Country of Origin 75
2-9 1997 Doctorate Recipients by Citizenship Status and the Institution's Carnegie Classification 75
2-10 Ph.D. Recipients Who Report United States as Postdoctoral Location, by Country/Region of Citizenship 76

Table 1 Doctorates Awarded by U.S. Colleges and Universities, 1956-1997

Year	Number	Year	Number	Year	Number
1956	8,517	1971	31,867	1986	31,902
1957	8,611	1972	33,041	1987	32,370
1958	8,773	1973	33,755	1988	33,500
1959	9,213	1974	33,047	1989	34,327
1960	9,733	1975	32,952	1990	36,067
1961	10,413	1976	32,946	1991	37,534
1962	11,500	1977	31,716	1992	38,890
1963	12,728	1978	30,875	1993	39,801
1964	14,325	1979	31,239	1994	41,034
1965	16,340	1980	31,020	1995	41,743
1966	17,949	1981	31,356	1996	42,415
1967	20,403	1982	31,111	1997	42,705
1968	22,937	1983	31,281		
1969	25,743	1984	31,337		
1970	29,498	1985	31,297		

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 2 Annual Percentage Change in Doctorates Awarded by U.S. Colleges and Universities, 1956-1997

Year	Annual Change	Year	Annual Change	Year	Annual Change
1956	-4.4	1971	8.0	1986	1.9
1957	1.1	1972	3.7	1987	1.5
1958	1.9	1973	2.2	1988	3.5
1959	5.0	1974	-2.1	1989	2.5
1960	5.6	1975	-0.3	1990	5.1
1961	7.0	1976	0.0	1991	4.1
1962	10.4	1977	-3.7	1992	3.6
1963	10.7	1978	-2.7	1993	2.3
1964	12.5	1979	1.2	1994	3.1
1965	14.1	1980	-0.7	1995	1.7
1966	9.8	1981	1.1	1996	1.6
1967	13.7	1982	-0.8	1997	0.7
1968	12.4	1983	0.5		
1969	12.2	1984	0.2		
1970	14.6	1985	-0.1		

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 3 Doctorates Awarded by U.S. Colleges and Universities per Institution, 1961-1997

Year	Number of Ph.D.s	Number of Institutions	Ph.D.s per Institution
1961	10,413	174	60
1962	11,500	175	66
1963	12,728	186	68
1964	14,325	196	73
1965	16,340	206	79
1966	17,949	216	83
1967	20,403	220	93
1968	22,937	230	100
1969	25,743	232	111
1970	29,498	242	122
1971	31,867	264	121
1972	33,041	271	122
1973	33,755	290	116
1974	33,047	297	111
1975	32,952	297	111
1976	32,946	299	110
1977	31,716	309	103
1978	30,875	316	98
1979	31,239	316	99
1980	31,020	325	95
1981	31,356	328	96
1982	31,111	333	93
1983	31,281	337	93
1984	31,337	336	93
1985	31,297	342	92
1986	31,902	345	92
1987	32,370	353	92
1988	33,500	355	94
1989	34,327	360	95
1990	36,067	358	101
1991	37,534	367	102
1992	38,890	370	105
1993	39,801	375	106
1994	41,034	377	109
1995	41,743	384	109
1996	42,415	392	108
1997	42,705	382	112

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 4 Distribution of Graduate Institutions and Doctoral Degrees by Carnegie Foundation Classification

Carnegie Category	Number of Institutions	Number of Ph.D.s Awarded	Percent of all Ph.D.s Awarded	Average Number Ph.D.s/Institution
Research II	88	28,778	67.4	327
Research II	37	4,794	11.2	130
Doctoral I	51	4,475	10.5	88
Doctoral II	60	2,044	4.8	34
Other	146	2,614	6.1	18

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates and a Classification of Institutions of Higher Education, 1994 Edition, The Carnegie Foundation for Advancement of Teaching.

Table 5 Major Field of Doctorate Recipients for Selected Years, 1967-1997

Field	1967	1972	1977	1982	1987	1992	1997
All Fields	20,403	33,041	31,716	31,111	32,370	38,890	42,705
Physical Sci/Math	4,333	5,538	4,379	4,291	5,030	6,502	6,574
Physics/Astronomy	1,312	1,634	1,150	1,014	1,237	1,537	1,576
Chemistry	1,773	2,019	1,571	1,680	1,975	2,214	2,115
Earth, Atmos., & Marine Sci.	418	604	694	657	628	824	882
Mathematics	830	1281	933	720	740	1,058	1,112
Computer Sciences*	0	0	31	220	450	869	889
Engineering	2,604	3,503	2,643	2,646	3,712	5,438	6,052
Life Sciences	3,143	5,084	4,923	5,709	5,754	7,115	8,213
Biological Sciences	2,360	3,600	3,484	3,893	3,839	4,799	5,717
Health Sciences	177	467	511	686	800	1,112	1,394
Agricultural Sciences	606	1017	928	1,130	1,115	1,204	1,102
Social Sciences	3,102	5,467	6,070	5,837	5,790	6,216	6,917
Psychology	1,295	2,279	2,990	3,159	3,173	3,263	3,487
Anthropology	147	260	385	333	352	320	430
Economics	691	893	837	761	821	910	1,011
Poli. Sci./Int'l. Relations	501	911	710	536	486	589	738
Sociology	331	639	725	568	423	495	571
Other Social Sciences	137	485	423	480	535	639	680
Humanities	3,087	5,055	4,562	3,561	3,500	4,444	5,387
History	733	1,186	961	692	586	724	954
Amer. & Eng. Lang. & Lit	797	1,370	1,076	[illegible]	668	903	1080
Foreign Lang. & Lit	470	812	728	[illegible]	444	562	653
Other Humanities	1,087	1,687	1,797	1,609	1,802	2,255	2,700
Education	3,481	7,085	7,455	7,251	6,454	6,677	6,497
Teacher Education	418	663	502	588	447	407	282
Teaching Fields	817	1705	1439	1333	1065	1008	894
Other Education	2,246	4,717	5,514	5,330	4,942	5,262	5,321
Professional/Other	653	1,309	1,684	1,816	2,130	2,498	3,065
Business & Management	425	765	671	685	981	1,248	1,221
Communications	34	166	302	266	309	330	325
Other Professional Fields	169	270	687	841	778	880	756
Other / Unknown Fields	25	108	24	24	62	40	763

*Computer Sciences first appeared on the survey form in 1978.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

Table 6 Sex of Doctorate Recipients, by Broad Field for Selected Years, 1967-1997

Field		1967	1972	1977	1982	1987	1992	1997
All Fields	Group Total	20,403	33,041	31,716	31,111	32,370	38,890	42,705
	Male	17,961	27,754	23,858	21,018	20,938	24,235	24,999
	Female	2,442	5,287	7,858	10,093	11,432	14,436	17,322
Physical Sciences*	Group Total	4,333	5,538	4,379	4,291	5,030	6,502	6,574
	Male	4,124	5,171	3,949	3,715	4,200	5,174	5,088
	Female	209	367	430	576	830	1,283	1,441
Engineering	Group Total	2,604	3,503	2,643	2,646	3,712	5,438	6,052
	Male	2,595	3,481	2,569	2,522	3,470	4,860	5,264
	Female	9	22	74	124	242	506	747
Life Sciences	Group Total	3,143	5,084	4,923	5,709	5,754	7,115	8,213
	Male	2,725	4,311	3,894	4,073	3,724	4,282	4,487
	Female	418	773	1,029	1,636	2,030	2,802	3,669
Social Sciences	Group Total	3,102	5,467	6,070	5,837	5,790	6,216	6,917
	Male	2,654	4,441	4,346	3,679	3,296	3,226	3,241
	Female	448	1,026	1,724	2,158	2,494	2,964	3,613
Humanities	Group Total	3,087	5,055	4,562	3,561	3,500	4,444	5,387
	Male	2,509	3,755	2,903	2,051	1,929	2,364	2,774
	Female	578	1,300	1,659	1,510	1,571	2,063	2,572
Education	Group Total	3,481	7,085	7,455	7,251	6,454	6,677	6,497
	Male	2,791	5,439	4,870	3,712	2,897	2,688	2,367
	Female	690	1,646	2,585	3,539	3,557	3,976	4,079
Professional/Other	Group Total	653	1,309	1,684	1,816	2,130	2,498	3,065
	Male	563	1,156	1,327	1,266	1,422	1,641	1,778
	Female	90	153	357	550	708	842	1,201

*Includes mathematics and computer sciences

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 7 Women as a Percentage of all Doctorate Recipients from U.S. Colleges and Universities, 1921-1997

Year	Percent	Year	Percent
1921	16.2	1960	10.7
1922	14.4	1961	10.8
1923	14.8	1962	10.7
1924	15.0	1963	10.9
1925	16.7	1964	10.9
1926	13.9	1965	10.8
1927	15.1	1966	11.6
1928	14.5	1967	12.0
1929	16.7	1968	12.8
1930	15.1	1969	13.2
1931	15.4	1970	13.5
1932	16.0	1971	14.4
1933	14.1	1972	16.0
1934	13.0	1973	18.0
1935	14.6	1974	19.5
1936	15.2	1975	21.9
1937	14.6	1976	23.3
1938	15.2	1977	24.8
1939	14.4	1978	27.0
1940	13.1	1979	28.6
1941	11.6	1980	30.3
1942	12.4	1981	31.5
1943	15.2	1982	32.4
1944	17.1	1983	33.7
1945	20.3	1984	34.1
1946	19.2	1985	34.3
1947	14.0	1986	35.4
1948	12.1	1987	35.3
1949	10.0	1988	35.3
1950	9.5	1989	36.5
1951	9.3	1990	36.3
1952	9.5	1991	37.0
1953	9.4	1992	37.1
1954	9.1	1993	38.0
1955	9.9	1994	38.6
1956	9.5	1995	39.3
1957	11.6	1996	40.0
1958	11.3	1997	40.6
1959	10.6		

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 8 Race/Ethnicity of U.S. Citizen Doctorate Recipients, by Broad Field for Selected Years, 1977-1997

Field	Race/Ethnicity	1977	1982	1987	1992	1997
All Fields	Group Total	26,119	24,394	22,984	26,010	27,668
	Known Race/Ethnicity	25,019	23,795	22,514	25,657	26,861
	Asian	339	452	543	848	1,328
	Black	1,113	1,048	771	971	1,335
	Hispanic	437	538	617	778	1,028
	American Indian	65	77	115	149	149
	White	23,065	21,680	20,468	22,911	23,021
Physical Sciences*	Group Total	3,344	3,120	3,093	3,539	3,559
	Known Race/Ethnicity	3,151	3,028	3,000	3,475	3,430
	Asian	61	81	104	180	249
	Black	41	30	29	34	59
	Hispanic	49	34	64	88	95
	American Indian	7	5	10	17	13
	White	2,993	2,878	2,793	3,156	3,014
Engineering	Group Total	1,472	1,169	1,558	2,109	2,682
	Known Race/Ethnicity	1,403	1,122	1,509	2,064	2,580
	Asian	67	72	135	214	285
	Black	11	9	12	32	82
	Hispanic	20	23	24	57	75
	American Indian	1	3	7	11	12
	White	1,304	1,015	1,331	1,750	2,126
Life Sciences	Group Total	3,892	4,610	4,242	4,708	5,092
	Known Race/Ethnicity	3,744	4,475	4,154	4,643	4,957
	Asian	63	112	145	180	314
	Black	64	69	78	89	164
	Hispanic	32	62	77	114	167
	American Indian	8	12	16	19	17
	White	3,577	4,220	3,838	4,241	4,295
Social Sciences	Group Total	5,181	4,802	4,402	4,672	5,016
	Known Race/Ethnicity	4,961	4,690	4,322	4,609	4,888
	Asian	55	67	76	101	182
	Black	187	194	136	185	252
	Hispanic	70	115	146	175	229
	American Indian	13	20	22	26	28
	White	4,636	4,294	3,942	4,122	4,197
Humanities	Group Total	4,053	3,023	2,733	3,468	4,120
	Known Race/Ethnicity	3,848	2,941	2,676	3,424	3,985
	Asian	38	28	26	52	110
	Black	95	96	73	96	135
	Hispanic	106	108	96	107	169
	American Indian	5	6	11	19	20
	White	3,604	2,703	2,470	3,150	3,551
Education	Group Total	6,795	6,280	5,493	5,852	5,365
	Known Race/Ethnicity	6,599	6,171	5,408	5,804	5,285
	Asian	41	69	41	80	97
	Black	666	577	383	467	525
	Hispanic	136	177	185	200	242
	American Indian	29	29	41	50	48
	White	5,727	5,319	4,758	5,007	4,373
Professional/Other	Group Total	1,382	1,390	1,463	1,662	1,834
	Known Race/Ethnicity	1,313	1,368	1,445	1,638	1,736
	Asian	14	23	16	41	91
	Black	49	73	60	68	118
	Hispanic	24	19	25	37	51
	American Indian	2	2	8	7	11
	White	1,224	1,251	1,336	1,485	1,465

*Includes mathematics and computer sciences.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 9 Major Field of U.S. Citizen Ph.D.s, by Race/Ethnicity, 1997

	Total U.S. Citizen Ph.D.s	Known Race/ Ethnicity	U.S. Citizens				
			Asians*	Blacks	His-panics	Amer. Indians†	Whites
TOTAL	27,668	26,861	1,328	1,335	1,028	149	23,021
PHYSICAL SCIENCES	3,559	3,430	249	59	95	13	3,014
Physics & Astronomy	875	843	72	15	22	3	731
Chemistry	1,222	1,182	83	29	30	6	1,034
Earth, Atmos., & Marine Sci.	531	512	18	5	15	2	472
Mathematics	514	494	34	6	13	1	440
Computer Science	417	399	42	4	15	1	337
ENGINEERING	2,682	2,580	285	82	75	12	2,126
LIFE SCIENCES	5,092	4,957	314	164	167	17	4,295
Biological Sciences	3,624	3,525	256	97	127	9	3,036
Health Sciences	939	924	41	51	25	5	802
Agricultural Sciences	529	508	17	16	15	3	457
SOCIAL SCIENCES	5,016	4,888	182	252	229	28	4,197
Psychology	2,884	2,840	99	142	160	17	2,422
Anthropology	331	304	7	10	16	3	268
Economics	409	397	35	12	15	1	334
Poli. Sci./Int'l. Relations	559	540	16	23	11		490
Sociology	397	382	9	37	15	4	317
Other Social Sciences	436	425	16	28	12	3	366
HUMANITIES	4,120	3,985	110	135	169	20	3,551
History	807	771	15	27	23	4	702
Amer. & Eng. Lang. & Lit	937	914	23	28	23	3	837
Foreign Lang. & Lit	403	388	12	7	59	1	309
Other Humanities	1,973	1,912	60	73	64	12	1,703
EDUCATION	5,365	5,285	97	525	242	48	4,373
Teacher Education	243	240	1	15	8	4	212
Teaching Fields	716	710	15	44	24	6	621
Other Education	4,406	4,335	81	466	210	38	3,540
PROFESSIONAL/OTHER	1,834	1,736	91	118	51	11	1,465
Business & Management	775	759	27	51	17	5	659
Communications	238	232	5	13	7		207
Other Professional Fields	545	533	17	41	16	4	455
Other Fields	276	212	42	13	11	2	144

NOTE: See technical notes in Appendix C for the rate of nonresponse to the survey question on race/ethnicity.

*Asians includes Pacific Islanders.
†American Indians includes Alaskan Natives.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 10 Leading U.S. Baccalaureate Institutions of U.S. Minority Ph.D.s, 1993-1997 (ranked by number of Ph.D.s)

Institution	Number	Institution	Number
Asians		Hispanics	
University of California-Berkeley	374	University of Puerto Rico-Rio Piedras Campus	455
University of California-Los Angeles	152	University of Puerto Rico-Mayaguez	166
Massachusetts Institute of Technology	136	University of California-Berkeley	91
University of Hawaii at Manoa	112	University of California-Los Angeles	91
Harvard University	103	The University of Texas at Austin	85
Stanford University	83	University of Miami, FL	71
University of California-Davis	79	The University of Texas at El Paso	58
California Institute of Technology	74	University of New Mexico	48
Cornell University-Endowed Colleges	70	University of Florida	46
University of Michigan	67	Florida International University	45
University of Illinois at Urbana	63	University of Arizona	43
Princeton University	63	Stanford University	41
University of California-Irvine	57	University of California-Santa Barbara	39
Yale University	52	Pontifical Catholic Univ. of Puerto Rico-Ponce	37
University of Washington	49	Massachusetts Institute of Technology	36
University of California-San Diego	47	California State University Los Angeles	35
University of Chicago	44	University of California-Irvine	34
Johns Hopkins University	44	San Diego State University	33
University of Maryland-College Park Campus	44	Cornell University -Endowed Colleges, NY	33
University of Southern California	43	Texas A&M University -College Station	33
Top 20 U.S. Institutions	*1,756*	*Top 20 U.S. Institutions*	*1,520*
Total U.S. Institutions Reported (537)	*3,959*	*Total U.S. Institutions Reported (669)*	*4,219*
Blacks		American Indians	
Howard University *	156	University of Oklahoma Norman Campus	21
Wayne State University	79	Oklahoma State University-Main Campus	14
Florida A & M University*	73	Michigan State University	12
Spelman College*	72	Auburn University Main Campus, AL	10
Hampton University*	69	University of California-Berkeley	10
Tuskegee University*	68	Northeastern State University	10
Jackson State University*	61	University of Central Oklahoma	9
North Carolina A & T St. University*	61	University of Arizona	7
Southern Univ. and A&M College-Baton Rouge*	58	The University of Texas at Austin	7
Chicago State University	53	University of Wisconsin-Madison	7
North Carolina Central University*	50	University of Arkansas at Fayetteville	6
University of Maryland-College Park Campus	46	University of California-Santa Barbara	6
Morgan State University*	46	University of North Carolina at Chapel Hill	6
Tennessee State University*	42	University of North Carolina-Pembroke	6
Grambling State University*	41	University of Virginia-Main Campus	6
University of Michigan	41	Northern Arizona University	5
Michigan State University	40	San Jose State University	5
Fisk University *	40	The University of Montana-Missoula	5
University of California-Berkeley	37	Oklahoma Baptist University	5
CUNY City College	37	Texas Tech University	5
Temple University	37	University of Washington	5
South Carolina State University*	37		
Top 22 U.S. Institutions	*1,244*	*Top 21 U.S. Institutions*	*167*
Total U.S. Institutions Reported (887)	*5,799*	*Total U.S. Institutions Reported (379)*	*723*

NOTE: See technical notes in Appendix C for total numbers of U.S. minority Ph.D.s in the period; the percentage reporting foreign institutions; and rates of non response to the survey questions on baccalaureate institution, citizenship and race/ethnicity.

*This institution is one of the "Historically Black Colleges and Universities" (HBCUs) founded during legal segregation in the late 1800s and early 1900s for the specific purpose of educating blacks. There are currently 102 HBCUs, 89 of which award baccalaureates.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 11 Leading Ph.D. Institutions of U.S. Minority Ph.D.s, 1993-1997 (ranked by number of Ph.D.s)

Institution	Number	Institution	Number
Asians		Hispanics	
University of California-Berkeley	204	The University of Texas at Austin	105
University of California-Los Angeles	193	University of Puerto Rico-Rio Piedras Campus	101
Stanford University	166	University of California-Berkeley	93
University of Southern California	106	University of California-Los Angeles	92
Massachusetts Institute of Technology	103	Texas A&M University-College Station	89
University of Michigan	96	Harvard University, MA	67
Harvard University	93	Stanford University, CA	66
University of Illinois at Urbana	89	University of Southern California	63
University of California-Davis	77	University of Michigan	58
Columbia Univ in the City of New York	70	Arizona State University-Main Campus	54
University of Hawaii at Manoa	65	University of New Mexico	54
University of Wisconsin-Madison	63	New York University	54
Yale University	59	University of Miami, FL	53
Cornell University-Endowed Colleges	58	Nova Southeastern University, FL	52
University of Washington	58	The Pennsylvania State University	52
University of California-San Diego	56	University of Arizona	51
Northwestern University	54	University of Wisconsin-Madison	47
University of California-Irvine	53	University of Colorado at Boulder	46
Princeton University	52	University of Massachusetts-Amherst	46
The University of Texas at Austin	51	Caribbean Center for Advanced Studies, PR	43
Top 20 Institutions	*1,766*	*Top 20 Institutions*	*1,286*
Total Institutions Reported (294)	*5,400*	*Total Institutions Reported (287)*	*4,615*
Blacks		American Indians	
Nova Southeastern University	217	University of Oklahoma Norman Campus	27
Howard University*	176	Oklahoma State University-Main Campus	16
Ohio State University-Main Campus	114	University of California-Berkeley	11
University of Michigan	109	University of Wisconsin-Madison	11
Wayne State University	104	University of Arizona	10
Teachers College at Columbia Univ	93	University of Arkansas at Fayetteville	10
Univ of Maryland-College Park Campus	92	Stanford University	10
Temple University	85	Harvard University	9
Clark Atlanta University*	83	University of Michigan	9
Virginia Polytech Inst and State University	72	The Univ of Texas at Austin	9
Walden University	67	University of Washington	9
Florida State University	63	Michigan State University	8
Michigan State University	60	North Carolina State University at Raleigh	8
Texas Southern University*	60	The Pennsylvania State University	8
University of Massachusetts-Amherst	58	Texas A&M University-College Station	8
North Carolina State University at Raleigh	57	University of California-Los Angeles	7
The University of Texas at Austin	57	University of Missouri-Columbia	7
University of North Carolina at Chapel Hill	56	University of North Carolina at Chapel Hill	7
University of California-Berkeley	55	University of North Dakota-Main Campus	7
University of Florida	55	Purdue University-Main Campus	7
Top 20 Institutions	*1,733*	*Top 20 Institutions*	*198*
Total Institutions Reported (297)	*6,171*	*Total Institutions Reported (182)*	*747*

*Historically Black College and University.

Note: 396 institutions awarded doctorates between 1993 and 1997

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates..

Table 12 Citizenship Status of Doctorate Recipients, by Broad Field for Selected Years, 1967-1997

Field/Citizenship	1967	1972	1977	1982	1987	1992	1997
All Fields	20,403	33,041	31,716	31,111	32,370	38,890	42,705
U.S. Citizenship	17,029	27,479	26,119	24,394	22,984	26,010	27,668
Non-U.S., Permanent Visa	876	2,093	1,368	1,228	1,578	1,980	2,915
Non-U.S., Temporary Visa	2,048	2,831	3,448	4,204	5,612	9,953	8,475
Unknown Citizenship	450	638	781	1,285	2,196	947	3,647
Physical Sciences*	4,333	5,538	4,379	4,291	5,030	6,502	6,574
U.S. Citizenship	3,539	4,392	3,344	3,120	3,093	3,539	3,559
Non-U.S., Permanent Visa	194	445	268	201	255	355	619
Non-U.S., Temporary Visa	508	620	676	838	1,368	2,458	1,960
Unknown Citizenship	92	81	91	132	314	150	436
Engineering	2,604	3,503	2,643	2,646	3,712	5,438	6,052
U.S. Citizenship	1,926	2,330	1,472	1,169	1,558	2,109	2,682
Non-U.S., Permanent Visa	229	622	326	296	355	411	593
Non-U.S., Temporary Visa	409	519	773	1,030	1,532	2,743	2,401
Unknown Citizenship	40	32	72	151	267	175	376
Life Sciences	3,143	5,084	4,923	5,709	5,754	7,115	8,213
U.S. Citizenship	2,454	3,988	3,892	4,610	4,242	4,708	5,092
Non-U.S., Permanent Visa	133	364	242	184	258	352	744
Non-U.S., Temporary Visa	511	629	672	749	923	1,932	1,858
Unknown Citizenship	45	103	117	166	331	123	519
Social Sciences	3,102	5,467	6,070	5,837	5,790	6,216	6,917
U.S. Citizenship	2,605	4,640	5,181	4,802	4,402	4,672	5,016
Non-U.S., Permanent Visa	138	252	189	196	248	289	333
Non-U.S., Temporary Visa	279	459	541	535	654	1,048	897
Unknown Citizenship	80	116	159	304	486	207	671
Humanities	3,087	5,055	4,562	3,561	3,500	4,444	5,387
U.S. Citizenship	2,734	4,527	4,053	3,023	2,733	3,468	4,120
Non-U.S., Permanent Visa	113	215	160	139	176	246	325
Non-U.S., Temporary Visa	142	205	216	226	327	614	544
Unknown Citizenship	98	108	133	173	264	116	398
Education	3,481	7,085	7,455	7,251	6,454	6,677	6,497
U.S. Citizenship	3,266	6,600	6,795	6,280	5,493	5,852	5,365
Non-U.S., Permanent Visa	37	131	108	145	172	165	166
Non-U.S., Temporary Visa	124	284	380	572	421	553	365
Unknown Citizenship	54	70	172	254	368	107	601
Professional/Other	653	1,309	1,684	1,816	2,130	2,498	3,065
U.S. Citizenship	505	1,002	1,382	1,390	1,463	1,662	1,834
Non-U.S., Permanent Visa	32	64	75	67	114	162	135
Non-U.S., Temporary Visa	75	115	190	254	387	605	450
Unknown Citizenship	41	128	37	105	166	69	646

*Includes mathematics and computer sciences.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 13 Visa Status of Ph.D.s from China Versus Other Non-U.S. Citizens, 1990-1997

Citizenship		1990	1991	1992	1993	1994	1995	1996	1997
Non-U.S. Citizens, Total	N	9,791	11,168	11,933	12,191	13,153	13,129	13,376	11,391
Permanent Visas	%	17.3	16.6	16.6	18.5	28.5	32.9	28.1	25.6
Temporary Visas	%	82.7	83.4	83.4	81.5	71.5	67.1	71.9	74.4
Citizens of China, Total	N	1,225	1,919	2,238	2,416	2,772	2,979	3,201	2,409
Permanent Visas	%	4.7	5.8	8.6	16.1	64.6	79.4	56	43.7
Temporary Visas	%	95.3	94.2	91.4	83.9	35.4	20.6	44	56.3
Other Non-U.S. Citizens, Total	N	8,566	9,249	9,695	9,775	10,381	10,150	10,175	8,982
Permanent Visas	%	19.1	18.9	18.4	19.1	18.8	19.2	19.4	20.7
Temporary Visas	%	80.9	81.1	81.6	80.9	81.2	80.8	80.6	79.3

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 14 Top 30 Countries of Origin of Non-U.S. Citizens Earning Ph.D.s at U.S. Colleges and Universities, 1997 (ranked by number of Ph.D.s)

Country		Number	Country		Number
1.	China	2408	16.	Thailand	107
2.	India	1368	17.	France	106
3.	Taiwan	1209	18.	Hong Kong	95
4.	Korea	1071	19.	Argentina	91
5.	Canada	403	20.	Spain	86
6.	Germany	243	21.	Indonesia	79
7.	Japan	214	22.	Saudi Arabia	79
8.	Turkey	159	23.	Australia	79
9.	Mexico	159	24.	Philippines	78
10.	Brazil	159	25.	Egypt	75
11.	Russia	157	26.	Israel	72
12.	United Kingdom	135	27.	Pakistan	71
13.	Greece	116	28.	Yugoslavia	69
14.	Iran	114	29.	Malaysia	65
15.	Italy	109	30.	Jordan	63
		Top 30 Countries of Origin	*9,239*		
		Total Countries Reported (154)	*11,390*		

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 15a Leading Ph.D. Institutions of Non-U.S. Citizen Ph.D.s, 1997 (ranked by number of Ph.D.s)

Institution	Number	Institution	Number
University of Wisconsin-Madison	254	Purdue University-Main Campus, IN	166
University of Texas at Austin	248	Cornell University-Endowed Colleges, NY	163
University of Illinois at Urbana	226	Univ of Southern California	155
Texas A&M University-College Station	226	Univ of Maryland-College Park Campus	154
University of Minnesota Twin Cities	223	University of Arizona	148
Ohio State University-Main Campus	221	Rutgers University-New Brunswick, NJ	142
Pennsylvania State Univ-Central Office	201	University of Pittsburgh-Main Campus, PA	135
University of Michigan	186	Harvard University, MA	129
Stanford University, CA	179	Michigan State University, MI	125
Columbia Univ in the City of New York, NY	177	University of Pennsylvania	125
University of Florida	171	Massachusetts Institute of Technology	121
University of California-Los Angeles	170	SUNY at Buffalo	118
University of California-Berkeley	168		
		Top 25 Institutions	4331
		Total Institutions Reported (313)	11390

Note: Between 1993 and 1997, 403 insitutions awarded doctorates.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 15b Leading Ph.D. Institutions of Non-U.S. Citizen Ph.D.s, 1997 (ranked by percentage of foreign-born Ph.D.s)

Institution	Percent	Institution	Percent
Tennessee Tech University	81.8%	Wesleyan University, CT	54.5%
New Jersey Institute of Technology	78.5%	SUNY Health Science Center at Syracuse	54.5%
Polytechnic University, NY	72.2%	Michigan Technological University	54.3%
Northeast Louisiana University	69.2%	Illinois Institute of Technology	53.1%
Massachusetts College of Pharmacy	66.6%	University of Missouri - Rolla	51.6%
Cornell Univ Medical College, NY	66.6%	La Sierra University, CA	50.0%
Medical College of Ohio	66.6%	Lutheran School of Theology at Chicago, IL	50.0%
Alfred University, NY	62.5%	New Mexico Institute of Mining and Technology	50.0%
Clarkson University, NY	62.5%	Stephen F. Austin State University, TX	50.0%
New York Medical College	62.5%	Southern Methodist University, TX	48.8%
Univ of Mississippi Medical Center	60.0%	Northeastern University, WA	48.5%
Worcester Polytechnic Institute, MA	58.3%	Albany Medical College, NY	46.6%
Louisiana State Univ - Shreveport	55.5%		

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 16 Median Years from Baccalaureate to Doctorate Award, by Broad Field for Selected Years, 1972-1997

Field	1972	1977	1982	1987	1992	1997
All Fields						
Total	8.2	8.9	9.7	10.5	10.6	10.5
Registered	5.9	6.1	6.6	7.0	7.2	7.3
Physical Sciences*						
Total	6.6	7.0	7.0	7.5	8.1	8.0
Registered	5.7	5.9	6.0	6.1	6.6	6.8
Engineering						
Total	7.6	7.5	8.0	8.2	8.9	8.7
Registered	5.5	5.7	5.9	6.0	6.3	6.5
Life Sciences						
Total	7.0	7.3	7.7	8.9	9.5	9.2
Registered	5.7	5.9	6.0	6.6	6.9	7.0
Social Sciences						
Total	7.5	8.0	9.2	10.5	10.7	10.0
Registered	5.7	6.0	6.8	7.3	7.6	7.5
Humanities						
Total	9.0	9.9	11.3	12.1	12.0	11.7
Registered	6.3	7.2	8.0	8.5	8.4	8.6
Education						
Total	12.7	12.6	13.7	16.2	19.0	20.0
Registered	6.2	6.5	7.2	8.0	8.2	8.4
Professional/Other						
Total	10.0	10.7	11.7	12.7	13.6	13.5
Registered	5.7	6.2	6.9	7.3	7.7	8.0

*Includes mathematics and computer sciences.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 17 Median Years from Baccalaureate to Doctorate Award, by Demographic Group and Broad Field, 1997

	All Fields	Physical Sci./Math	Engineering	Life Sciences	Social Sciences	Humanities	Education	Prof/ Other
Total Time from Baccalaureate								
All Ph.D.s	10.5	8.0	8.7	9.2	10.0	11.7	20.0	13.5
Men	10.0	8.1	8.9	9.0	10.0	11.3	19.3	13.1
Women	11.5	7.9	7.8	9.5	10.0	12.0	20.3	14.0
U.S. Citizens	10.7	7.3	8.0	8.7	9.8	11.7	20.8	15.0
Non-U.S., Permanent Visas	11.3	10.7	11.0	10.8	11.8	12.1	14.2	13.1
Non-U.S., Temporary Visas	9.7	8.9	9.0	9.7	10.2	11.1	13.0	11.2
U.S. Citizens								
Asians	8.9	7.8	8.3	8.0	9.0	10.0	15.2	12.3
Blacks	14.1	8.5	9.0	10.0	10.0	12.5	20.8	17.0
Hispanics	11.0	8.0	8.7	8.3	10.3	11.0	19.4	13.4
American Indians	12.8	6.2	8.1	10.1	8.0	14.6	20.8	14.3
Whites	10.7	7.3	7.7	8.8	9.7	11.7	21.0	15.0
Registered Time from Baccalaureate								
All Ph.D.s	7.3	6.8	6.5	7.0	7.5	8.6	8.4	8.0
Men	7.2	6.8	6.6	7.0	7.5	8.5	8.6	8.0
Women	7.6	6.6	6.3	7.0	7.5	8.9	8.3	7.7
U.S. Citizens	7.4	6.5	6.4	7.0	7.4	8.6	8.6	8.0
Non-U.S., Permanent Visas	7.9	7.8	7.2	7.7	8.5	9.0	8.1	8.7
Non-U.S., Temporary Visas	7.0	6.9	6.5	7.0	7.5	8.5	6.9	7.4
U.S. Citizens	7.0	6.9	6.9	7.0	7.1	8.3	8.5	7.8
Asians	7.8	7.0	7.0	7.4	7.5	8.6	8.0	8.2
Blacks	7.7	7.0	6.6	6.8	8.0	8.5	8.6	7.8
Hispanics	7.6	6.6	6.5	6.1	7.0	9.9	9.0	7.9
American Indians	7.4	6.5	6.3	7.0	7.3	8.6	8.6	8.0
Whites								

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 18 Distribution of 1997 Doctorate Recipients by Age at Doctorate

	Age Grouping					
	21-25	26-30	31-35	36-40	41-45	Over 45
Field of Study						
All Fields	334	12,520	11,570	6,108	4,039	4,921
Physical Sciences	134	3,035	1,936	686	258	146
Engineering	95	2,571	1,991	746	231	123
Life Sciences	45	3,029	2,555	1,081	603	467
Social Sciences	34	2,056	1,905	1,054	623	664
Humanities	14	11,057	1,645	1,023	652	643
Education	9	392	812	974	1,318	2,410
Prof/Other	3	380	726	544	354	468
Sex						
Male	238	7,901	7,548	3,780	2,085	1,881
Female	93	4,615	4,011	2,324	1,951	3,039
Citizenship						
U.S. Citizen	194	8,708	6,623	4,021	3,215	4,518
Permanent Resident	26	648	1,153	613	272	143
Temporary Visa	106	2,892	3,408	1,281	446	156
Race/Ethnicity						
Asian	102	2,903	3,660	1,425	493	232
Black	8	339	367	341	308	379
Hispanic	12	380	527	401	231	216
American Indian	2	32	40	26	31	31
White	197	8,452	6,596	3,814	2,853	3,940

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 19 Primary Sources of Financial Support for Doctorate Recipients, by Broad Field and Demographic Group, 1997 (includes only Ph.D.s who reported primary source of support)

Primary Source of Support (responses only)		All Ph.D.s	Men	Women	U.S. Citzns.	Perm. Visas	Temp. Visas	U.S. Citizens*				
								Asians	Blacks	Hispanics	Amer. Indians	Whites
All Fields	N	42,705	24,999	17,322	27,668	2,915	8,475	1,328	1,335	1,028	149	23,021
Personal	%	34.5	28.6	43.2	42.1	21.9	15.1	25.3	45.4	40.5	48.9	42.8
University	%	53.9	58.6	47.0	46.7	72.2	71.0	61.9	40.1	42.8	31.1	46.5
Federal	%	4.5	4.8	4.2	5.7	1.4	2.0	7.5	6.2	7.7	12.6	5.4
Other	%	7.0	8.0	5.6	5.6	4.5	11.9	5.2	8.3	9.0	7.4	5.3
Physical Sciences†	N	6,574	5,088	1,441	3,559	619	1,960	249	59	95	13	3,014
Personal	%	11.8	11.7	12.1	15.8	9.2	5.7	11.0	13.7	17.6	16.7	16.0
University	%	76.5	76.7	75.7	69.1	87.6	85.9	74.8	62.7	50.6	50.0	69.5
Federal	%	6.4	6.0	7.9	10.3	0.7	1.3	10.0	11.8	14.1	25.0	10.1
Other	%	5.3	5.6	4.2	4.8	2.4	7.0	4.3	11.8	17.6	8.3	4.3
Engineering	N	6,052	5,264	747	2,682	593	2,401	285	82	75	12	2,126
Personal	%	16.4	17.2	11.1	18.4	15.1	14.2	20.9	19.2	12.1	50.0	18.2
University	%	65.6	65.6	65.4	56.1	77.0	73.6	60.6	43.8	39.4	16.7	56.3
Federal	%	7.8	6.5	16.9	15.5	1.8	1.2	11.4	23.3	28.8	25.0	15.4
Other	%	10.2	10.7	6.7	10.0	6.1	10.9	7.1	13.7	19.7	8.3	10.1
Life Sciences	N	8,213	4,487	3,669	5,092	744	1,858	314	164	167	17	4,295
Personal	%	19.3	16.5	22.6	23.5	12.7	9.8	12.0	18.4	12.2	31.3	24.7
University	%	68.5	70.9	65.7	64.8	83.2	74.1	76.7	62.6	70.7	50.0	64.2
Federal	%	5.1	5.0	5.2	6.6	1.6	2.5	5.3	12.2	10.2	12.5	6.3
Other	%	7.1	7.6	6.4	5.0	2.5	13.5	6.0	6.8	6.8	6.3	4.8
Social Sciences	N	6,917	3,241	3,613	5,016	333	897	182	252	229	28	4,197
Personal	%	44.6	40.4	48.4	49.3	35.1	23.6	39.4	39.6	49.5	38.5	50.4
University	%	45.3	47.8	43.1	42.8	56.5	54.6	49.7	44.7	37.7	38.5	42.9
Federal	%	4.1	4.3	3.9	4.1	2.2	4.5	9.7	6.0	6.9	11.5	3.4
Other	%	6.0	7.5	4.6	3.8	6.1	17.3	1.3	9.8	5.9	11.5	3.3
Humanities	N	5,387	2,774	2,572	4,120	325	544	110	135	169	20	3,551
Personal	%	43.0	43.5	42.6	45.5	38.9	27.7	35.4	24.0	37.0	41.2	46.7
University	%	49.0	47.7	50.4	47.2	53.4	60.6	53.1	63.2	51.4	41.2	46.5
Federal	%	2.5	2.7	2.2	2.6	1.3	2.0	3.1	5.6	1.4	5.9	2.5
Other	%	5.5	6.1	4.8	4.8	6.4	9.7	8.3	7.2	10.3	11.8	4.4
Education	N	6,497	2,367	4,079	5,365	166	365	97	525	242	48	4,373
Personal	%	72.4	70.3	73.6	75.2	57.2	40.5	69.3	71.1	70.7	73.8	76.1
University	%	17.9	17.1	18.4	16.2	37.2	32.8	23.9	20.4	19.2	11.9	15.5
Federal	%	1.9	2.6	1.4	1.8	0.0	3.7	2.3	1.7	3.0	9.5	1.6
Other	%	7.8	10.0	6.5	6.8	5.5	23.0	4.5	6.7	7.1	4.8	6.8
Professional/Other	N	2,414	1,459	921	1,581	133	447	49	107	41	9	1,339
Personal	%	50.7	49.2	52.9	57.3	44.2	30.5	46.3	43.0	57.9	55.6	59.2
University	%	39.7	39.8	39.6	35.1	46.5	53.5	51.2	43.0	39.5	44.4	33.6
Federal	%	1.5	1.4	1.8	1.6	0.8	1.2	0.0	4.0	0.0	0.0	1.4
Other	%	8.1	9.6	5.8	5.9	8.5	14.9	2.4	10.0	2.6	0.0	5.8

NOTE: N represents those Ph.D.s with known primary support; percentages are based on these numbers. Because nonresponse to primary source of support is much greater than for other variables and fluctuates from year to year, the reader is advised not to compare percentages in this table with those published in earlier reports. The overall nonresponse rate for primary source of support was 12.8 percent in 1997, compared to 12.1 percent in 1996, 25.2 percent in 1995, 27.6 percent in 1994, 33.8 percent in 1993, and 30.3 percent in 1992. See technical notes in Appendix C for further information.

"Personal" includes loans as well as own earnings and contributions from spouse/family. Federally funded research assistantships (RAs) are grouped under "University" because not all recipients of such support are aware of the actual source of funding. For further definition of "Federal" support, see item A11 on the survey questionnaire in Appendix D. "Other" support includes U.S. nationally competitive fellowships, business/employer funds, foreign government and state government sources.

*Asians includes Pacific Islanders. American Indians includes Alaskan Natives.
†Includes mathematics and computer sciences.
SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 20 Cumulative Debt Related to the Education of the Doctorate Recipients, by Broad Field, 1997

	All Fields	Physical Science	Engineering	Life Science	Social Science	Humanities	Education	Prof./ Other
All Ph.D.s	42,705	6,574	6,052	8,213	6,917	5,387	6,497	2,414
Responses	37,829	5,982	5,564	7,522	6,080	4,832	5,749	2,100
No Debt	50.9	58.4	61.9	51.5	36.4	41.4	56.0	48.2
With Debt	49.1	41.6	38.1	48.5	63.6	58.6	44.0	51.8
$5,000 or less	10.9	11.7	10.8	12.6	9.3	11.3	10.0	9.2
$5,001-$10,000	9.0	9.4	7.5	9.9	10.1	10.6	7.0	8.1
$10,001-$15,000	6.9	6.7	5.4	7.1	8.3	8.8	5.3	7.2
$15,001-$20,000	5.2	4.3	3.6	5.3	6.4	7.1	4.8	5.1
$20,001-$25,000	3.9	2.8	2.4	3.7	5.7	4.9	3.9	4.0
$25,001-$30,000	3.1	2.0	1.7	2.6	5.2	4.0	3.0	3.9
$30,000+	10.0	4.7	6.7	7.3	18.6	11.8	9.8	14.3

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 21 Cumulative Debt Related to the Education of the Doctorate Recipients, by Demographic Group, 1997

							U.S. Citizens				
	All Ph.D.s	Male	Female	U.S. Citzns.	Perm. Visas	Temp. Visas	Asians	Blacks	His-panics	Amer. Ind.	Whites
All Fields	42,705	24,999	17,322	27,668	2,915	8,475	1,328	1,335	1,028	149	23,021
All Responses	37,836	22,444	15,373	26,243	2,829	8,169	1,167	1,273	942	143	22,175
No Debt	50.9	51.3	50.4	43.9	67.3	67.0	48.7	31.6	30.0	41.3	44.9
With Debt	49.1	48.7	49.6	56.1	32.7	33.0	51.3	68.4	70.0	58.7	55.1
$5,000 or less	10.9	11.1	10.7	11.1	8.3	11.4	10.4	12.8	10.8	10.5	11.0
$5,001-$10,000	9.0	9.2	8.8	10.3	6.4	6.1	10.9	10.8	13.0	9.8	10.2
$10,001-$15,000	6.9	6.9	6.9	8.3	5.0	3.4	7.9	7.6	8.9	7.0	8.3
$15,001-$20,000	5.2	5.2	5.3	6.5	3.2	1.9	5.9	6.6	9.4	7.0	6.4
$20,001-$25,000	3.9	3.9	3.9	4.8	2.3	1.7	2.9	5.8	6.2	4.9	4.8
$25,001-$30,000	3.1	2.9	3.4	3.9	1.7	1.2	3.1	5.7	6.4	4.2	3.7
$30,000+	10.0	9.6	10.6	11.3	5.7	7.2	10.3	19.2	15.3	15.4	10.6

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 22 Postgraduation Status of Doctorate Recipients, by Broad Field for Selected Years, 1977-1997

		All Fields	Physical Science*	Engineering	Life Science	Social Science	Humanities	Education	Prof./Other
All Ph.D.s									
1977	N	31,716	4,379	2,643	4,923	6,070	4,562	7,455	1,684
1982	N	31,111	4,291	2,646	5,709	5,837	3,561	7,251	1,816
1987	N	32,370	5,030	3,712	5,754	5,790	3,500	6,454	2,130
1992	N	38,890	6,502	5,438	7,115	6,216	4,444	6,677	2,498
1997	N	42,705	6,574	6,052	8,213	6,917	5,387	6,497	3,065
Total Responses to Postgraduation Status									
1977	N	29,720	4,118	2,474	4,649	5,662	4,212	7,030	1,575
1982	N	28,731	4,000	2,383	5,335	5,335	3,263	6,760	1,655
1987	N	29,285	4,545	3,256	5,310	5,160	3,155	5,958	1,901
1992	N	35,805	5,980	4,920	6,672	5,614	4,157	6,177	2,285
1997	N	37,712	5,984	5,549	7,504	6,058	4,815	5,698	2,104
Definite Commitments for Employment or Study									
1977	%	71.8	72.5	73.9	74.8	71.9	59.6	73.2	84.3
1982	%	74.6	79.3	74.2	76.5	71.6	65.8	75.0	82.8
1987	%	72.9	76.7	68.1	75.8	69.6	66.3	74.2	80.4
1992	%	69.3	68.4	60.0	74.5	68.2	61.5	75.3	76.5
1997	%	67.4	69.6	65.3	71.1	64.6	56.3	72.8	72.8
Seeking Employment or Study									
1977	%	28.2	27.5	26.1	25.2	28.1	40.4	26.8	15.7
1982	%	25.4	20.7	25.8	23.5	28.4	34.2	25.0	17.2
1987	%	27.1	23.3	31.9	24.2	30.4	33.7	25.8	19.6
1992	%	30.7	31.6	40.0	25.5	31.8	38.5	24.7	23.5
1997	%	32.6	30.4	34.7	28.9	35.4	43.7	27.2	27.2

NOTE: Percentages are based on the number of Ph.D.s who reported their postgraduation status (definite or seeking), regardless of plans (employment or study). See technical notes in Appendix C for rates of nonresponse to the application questions and for further explanation of postgraduation plans.

*Includes mathematics and computer sciences.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 23 Postgraduation Status of Doctorate Recipients, by Demographic Group for Selected Years, 1977-1997

								U.S. Citizens & Permanent Residents*				
		All Ph.D.s	Men	Women	U.S. Citizens	Perm. Visas	Temp. Visas	Asians	Blacks	Hispanics	American Indians	Whites
All Ph.D.s												
1977	N	31,716	23,858	7,858	26,119	1,368	3,448	910	1,191	489	66	23,654
1982	N	31,111	21,018	10,093	24,392	1,228	4,204	1,004	1,144	615	77	22,143
1987	N	32,370	20,938	11,432	22,984	1,578	5,612	1,168	910	708	115	21,122
1992	N	38,890	24,235	14,436	25,996	1,980	9,953	1,764	1,116	895	149	23,625
1997	N	42,705	24,999	17,322	27,668	2,915	8,475	3,140	1,476	1,163	151	23,789
Total Responses to Postgraduation Status												
1977	N	29,720	22,387	7,333	25,127	1,316	3,213	871	1,135	480	63	23,125
1982	N	28,731	19,364	9,367	23,594	1,164	3,870	943	1,106	598	74	21,636
1987	N	29,285	18,786	10,499	22,523	1,471	5,231	1,099	884	690	112	20,779
1992	N	35,805	22,406	13,394	24,878	1,818	9,072	1,629	1,026	843	141	22,739
1997	N	37,712	22,378	15,318	26,161	2,804	8,163	2,891	1,394	1,060	144	22,884
Definite Commitments for Employment or Study												
1977	%	71.8	73.7	66.1	73	60.3	67.7	61.9	69	71.3	79.4	73
1982	%	74.6	76.7	70.3	75.6	64.9	70.9	69.1	72.7	71.7	64.9	75.7
1987	%	72.9	74.1	70.8	74.7	59.2	69.4	65.5	64.4	69.9	74.1	74.7
1992	%	69.2	68.6	70.3	73.4	56.1	60.5	60.6	69.7	68.4	70.2	73.4
1997	%	67.4	68.1	66.5	69.8	59.2	63.3	63	66.8	68.2	76.4	69.7
Seeking Employment or Study												
1977	%	28.2	26.3	33.9	27	39.7	32.3	38.1	31	28.7	20.6	27
1982	%	25.4	23.3	29.7	24.4	35.1	29.1	30.9	27.3	28.3	35.1	24.3
1987	%	27.1	25.9	29.2	25.3	40.8	30.6	34.5	35.6	30.1	25.9	25.3
1992	%	30.8	31.4	29.7	26.6	43.9	39.5	39.4	30.3	31.6	29.8	26.6
1997	%	32.6	31.9	33.5	30.2	40.8	36.7	37	33.2	31.8	23.6	30.3

NOTE: Percentages are based on the number of Ph.D.s who reported their postgraduation status (definite or seeking), regardless of plans (employment or study). See technical notes in Appendix C for rates of nonresponse to the applicable questions and for further explanation of postgraduation plans.

*Asians includes Pacific Islanders. American Indians includes Alaskan Natives.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 24 Postgraduation Commitments of Doctorate Recipients, by Type of Plans and Broad Field for Selected Years, 1977-1997

		All Fields	Physical Sciences*	Engineering	Life Sciences	Social Sciences	Humanities	Education	Prof./ Other
All Definite Commitments									
1977	N	21,345	2,986	1,828	3,476	4,071	2,511	5,146	1,327
1982	N	21,430	3,173	1,768	4,080	3,820	2,146	5,072	1,371
1987	N	21,362	3,488	2,216	4,024	3,593	2,091	4,421	1,529
1992	N	24,796	4,091	2,953	4,971	3,827	2,555	4,652	1,747
1997	N	25,430	4,164	3,626	5,335	3,915	2,710	4,149	1,531
Definite Commitments with Responses to Type of Plans									
1977	N	21,154	2,969	1,815	3,450	4,034	2,476	5,095	1,315
1982	N	21,361	3,166	1,764	4,070	3,812	2,139	5,047	1,363
1987	N	21,198	3,478	2,201	4,010	3,568	2,066	4,355	1,520
1992	N	24,636	4,084	2,944	4,961	3,808	2,532	4,565	1,742
1997	N	24,831	4,111	3,561	5,233	3,829	2,617	3,993	1,487
Employment									
1977	%	81.4	60.9	86.5	47.9	88.9	95.1	97.5	97.8
1982	%	80.2	65.7	88.5	45.0	87.8	95.1	97.5	98.5
1987	%	74.2	51.4	80.2	40.5	83.4	93.2	96.1	96.6
1992	%	72.0	49.0	77.9	37.1	82.2	93.9	96.8	97.0
1997	%	71.6	53.4	79.3	38.7	78.6	93.0	96.3	96.9
Study									
1977	%	18.6	39.1	13.5	52.1	11.1	4.9	2.5	2.2
1982	%	19.8	34.3	11.5	55.0	12.2	4.9	2.5	1.5
1987	%	25.8	48.6	19.8	59.5	16.6	6.8	3.9	3.4
1992	%	28.0	51.0	22.1	62.9	17.8	6.1	3.2	3.0
1997	%	28.4	46.6	20.7	61.3	21.4	7.0	3.7	3.1

NOTE: Only Ph.D.s with definite commitments are included. "All Definite Commitments" includes recipients who reported definite commitments but not type of plans (employment or study). Percentages are based on the number of Ph.D.s who reported a definite commitment and a type of plan. See technical notes in Appendix C for rates of nonresponse to the applicable survey questions and for further explanation of postgraduation plans.

*Includes mathematics and computer sciences.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 25 Postgraduation Commitments of Doctorate Recipients, by Type of Plans and Demographic Group for Selected Years, 1977-1997

								U.S. Citizens & Permanent Residents*				
		All Ph.D.s	Men	Women	U.S. Citizens	Perm. Visas	Temp. Visas	Asians	Blacks	Hispanics	American Indians	Whites
All Definite Commitments												
1977	N	21,345	16,494	4,851	18,331	793	2,174	539	783	342	50	16,873
1982	N	21,430	14,848	6,582	17,843	755	2,745	652	804	429	48	16,385
1987	N	21,362	13,929	7,433	16,818	871	3,633	720	569	482	83	15,513
1992	N	24,791	15,379	9,412	18,257	1,020	5,489	987	715	577	99	16,699
1997	N	25,425	15,231	10,194	18,252	1,659	5,171	1,822	931	723	110	15,940
Definite Commitments with Responses to Type of Plans												
1977	N	21,154	16,346	4,808	18,196	785	2,128	535	770	338	50	16,756
1982	N	21,361	14,800	6,561	17,803	751	2,723	647	799	428	48	16,354
1987	N	21,198	13,836	7,362	16,704	865	3,591	719	558	477	82	15,414
1992	N	24,631	15,307	9,324	18,144	999	5,463	980	695	565	99	16,606
1997	N	24,829	14,900	9,929	17,836	1,617	5,046	1,785	895	702	106	15,589
Employment												
1977	%	81.4	80.7	83.8	82.4	72.7	76.3	68.8	93.1	88.2	82	82
1982	%	80.2	79	82.7	80.4	79.8	78.1	73.4	94.2	86.2	72.9	79.9
1987	%	74.2	71.9	78.7	76.4	70.2	65.2	66.2	86.4	77.6	79.3	76.3
1992	%	72	69.2	76.7	75.7	69.3	60.6	64	83.3	76.6	80.8	75.6
1997	%	7.6	69.7	74.4	75.1	66.2	61	63	81.8	77.8	87.7	75.1
Study												
1977	%	18.6	19.3	16.2	17.6	27.3	23.7	31.2	6.9	11.8	18	18
1982	%	19.8	21	17.3	19.6	20.2	21.9	26.6	5.8	13.8	27.1	20.1
1987	%	25.8	28.1	21.3	23.6	29.8	34.8	33.8	13.6	22.4	20.7	23.7
1992	%	28	30.8	23.3	24.3	30.7	39.4	36	16.7	23.4	19.2	24.4
1997	%	28.4	30.3	25.6	24.9	33.8	39	37	18.2	22.2	12.3	24.9

NOTE: Only Ph.D.s with definite commitments are included. "All Definite Commitments" includes recipients who reported definite commitments but not type of plans (employment or study). Percentages are based on the number of Ph.D.s who reported a definite commitment and a type of plan. See technical notes in Appendix C for rates of nonresponse to the applicable survey questions and for further explanation of postgraduation plans.

*Asians includes Pacific Islanders. American Indians includes Alaskan Natives.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 26 Postdoctoral Location of Non-U.S. Citizen Doctorate Recipients with Postgraduation Commitments, by Major Field and Visa Status, 1997

Field of Doctorate (responses only)	Permanent Visas: Resp. to Location/ Type of Plans (N)	Permanent Visas: U.S. Location Empl. (%)	Permanent Visas: U.S. Location Study (%)	Permanent Visas: Foreign Location Empl. (%)	Permanent Visas: Foreign Location Study (%)	Temporary Visas: Resp. to Location/ Type of Plans (N)	Temporary Visas: U.S. Location Empl. (%)	Temporary Visas: U.S. Location Study (%)	Temporary Visas: Foreign Location Empl. (%)	Temporary Visas: Foreign Location Study (%)
All Fields	1,589	60.4	32.4	5.8	1.4	4,981	35.1	32.8	25.9	6.1
Physical Sciences	351	61.3	34.8	1.4	2.6	1,219	33.8	44.1	12.5	9.7
Physics & Astronomy	92	53.3	40.2	1.1	5.4	287	25.8	53.7	7.3	13.2
Chemistry	120	50.0	47.5	1.7	0.8	357	20.2	64.1	7.8	7.8
Earth, Atmos., & Marine Sci.	31	64.5	32.3	-	3.2	121	18.2	48.8	24.0	9.1
Mathematics	52	75.0	21.2	1.9	1.9	249	45.4	28.9	12.9	12.9
Computer Science	56	83.9	12.5	1.8	1.8	205	63.9	11.2	20.5	4.4
Engineering	327	79.5	13.5	7.0	-	1,361	53.1	22.0	22.2	2.7
Life Sciences	433	27.5	68.8	2.3	1.4	1,163	13.3	60.4	18.7	7.7
Biological Sciences	356	22.5	75.8	0.6	1.1	811	9.4	72.6	9.9	8.1
Health Sciences	29	75.9	20.7	3.4	-	157	30.6	28.7	36.3	4.5
Agricultural Sciences	48	35.4	45.8	14.6	4.2	195	15.9	34.9	41.0	8.2
Social Sciences*	171	65.5	21.6	11.1	1.8	532	32.5	9.8	51.5	6.2
Psychology	52	53.8	44.2	1.9	-	75	29.3	28.0	33.3	9.3
Economics	50	80.0	6.0	14.0	-	271	34.3	3.7	57.2	4.8
Political Sci./International Rel.	13	38.5	7.7	53.8	-	36	33.3	8.3	55.6	2.8
Sociology	19	57.9	26.3	10.5	5.3	42	33.3	9.5	47.6	9.5
Humanities	162	80.9	6.2	11.7	1.2	277	48.0	10.1	37.2	4.7
Education	73	86.3	1.4	9.6	2.7	159	19.5	4.4	69.2	6.9
Prof/Other Fields*	72	83.3	4.2	12.5	-	270	45.6	3.0	49.6	1.9
Business & Management	51	84.3	3.9	11.8	-	182	58.2	2.7	38.5	0.5

NOTE: Only non-U.S. citizen Ph.D.s with definite commitments are included. "All Definite Cmmitments" includes recipients who reported definite commitments but not location (U.S. or foreign). Percentages are based on the number of Ph.D.s who reported a definite commitment and a location. See technical notes in Appendix C for rates of nonresponse to the applicable survey questions and for further explanation of postgraduation plans.

*Totals include other fields not shown.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 27 Postdoctoral Location of Non-U.S. Citizen Doctorate Recipients with Postgraduation Commitments, by Visa Status for Selected Years, 1977-1997

		All Non-U.S. Citizens	Permanent Visas	Temporary Visas
All Definite Commitments				
1977	N	2,967	793	2,174
1982	N	3,500	755	2,745
1987	N	4,504	871	3,633
1992	N	6,509	1,020	5,489
1997	N	6,830	1,659	5,171
Definite Commitments with Responses to Location				
1977	N	2,844	763	2,081
1982	N	3,251	711	2,540
1987	N	4,054	789	3,265
1992	N	6,410	1,006	5,404
1997	N	6,713	1,622	5,091
U.S. Location				
1977	%	50.4	90.7	35.6
1982	%	51.0	90.4	40.0
1987	%	59.0	84.5	52.8
1992	%	63.3	87.4	58.8
1997	%	73.6	92.7	67.5
Foreign Location				
1977	%	49.6	9.3	64.4
1982	%	49.0	9.6	60.0
1987	%	41.0	15.5	47.2
1992	%	36.7	12.6	41.2
1997	%	26.4	7.3	32.5

NOTE: Only non-U.S. citizen Ph.D.s with definite commitments are included. "All Definite Commitments" includes recipients who reported definite commitments but not location (U.S. or foreign). Percentages are based on the number of Ph.D.s who reported a definite commitment and a location.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 2-1 Non-U.S. Citizen Doctorate Recipients Who Began Their Undergraduate Studies in the United States, by Leading Country

Country	Number	Country	Number
India	57	Germany	22
Iran	56	Greece	19
Canada	45	Saudi Arabia	14
Korea	39	France	13
Malaysia	35	Cyprus	12
China	31	Italy	11
Hong Kong	30	Kenya	11
Japan	28	Mexico	11
United Kingdom	25	Thailand	11
Taiwan	24	Lebanon	10

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 2-2 Doctorate Recipients by Citizenship Status and Sex

Sex	U.S. Citizens	Permanent Residents	Temporary Visa Holders	Total
Male	14,804	1,824	6,455	23,083
Female	12,852	1,090	2,011	15,953
Total Known	27,656	2,914	8,466	39,036

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 2-3 Doctorate Recipients by Marital Status and Citizenship

Marital Status	U.S. Citizens	Permanent Residents	Temporary Visa Holders	Total
Married	15,317	2,247	5,064	22,628
Not Married	10,710	620	3,309	14,639
Total Known	26,027	2,867	8,373	37,267

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 2-4 Educational Attainment of Fathers of 1997 Doctorate Recipients, by Citizenship

	High School or Less		Some College		Advanced Degree	
Country	Number	Percent	Number	Percent	Number	Percent
Canada	173	41.7	113	27.2	129	31.1
Mexico	69	42.6	56	34.6	37	22.8
Italy	48	43.2	24	21.6	39	35.1
Greece	49	41.9	48	41.0	20	17.1
France	46	42.2	22	20.2	41	37.6
United Kingdom	65	39.2	45	27.1	56	33.7
Germany	100	40.7	30	12.2	116	47.2
Scandinavia	33	33.0	24	24.0	43	43.0
Western Europe	110	37.8	84	28.9	97	33.3
Eastern Europe	60	11.9	115	22.7	331	65.4
India	166	12.0	551	39.9	665	48.1
Korea	372	34.6	470	43.8	232	21.6
Taiwan	555	45.6	549	45.1	113	9.3
China	855	35.0	1,210	49.6	375	15.4
Hong Kong	71	74.7	20	21.1	4	4.2
Japan	77	36.0	107	50.0	30	14.0
Middle East	229	50.0	117	25.5	112	24.5
Other Asia	289	40.5	244	34.2	181	25.4
Central America	59	52.2	24	21.2	30	26.5
South America	171	36.1	131	27.6	172	36.3
Africa	239	54.2	103	23.4	99	22.4
Australia & Pacific Islands	44	39.3	34	30.4	34	30.4

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 2-5 Comparison of Fathers' and Mothers' Levels of Educational Attainment for 1997 Doctorate Recipients, by Citizenship

	High School Diploma or Less		1-4 Years of College		Advanced Degree	
Citizenship	Number	Percent	Number	Percent	Number	Percent
U.S. Citizens						
Fathers	7,855	28.4	8,980	32.5	10,833	39.2
Mothers	9,741	35.2	11,008	39.8	6,919	25.0
Permanent Residents						
Fathers	986	33.8	1,105	37.9	824	28.3
Mothers	1,444	49.5	1,023	35.1	448	15.4
Temporary Visa Holders						
Fathers	3,113	36.7	3,150	37.2	2,212	26.1
Mothers	4,847	57.2	2,481	29.3	1,147	13.5

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 2-6 Educational Attainment of Mothers of 1997 Doctorate Recipients, by Citizenship

	High School or Less		Some College		Advanced Degree	
Country	Number	Percent	Number	Percent	Number	Percent
Canada	195	47.0	160	38.6	60	14.5
Mexico	101	62.3	44	27.2	17	10.5
Italy	65	58.6	26	23.4	20	18.0
Greece	80	68.4	30	25.6	7	6.0
France	58	53.2	24	22.0	27	24.8
United Kingdom	82	49.4	53	31.9	31	18.7
Germany	135	54.9	43	17.5	68	27.6
Scandinavia	46	46.0	35	35.0	19	19.0
Western Europe	154	52.9	84	28.9	53	18.2
Eastern Europe	85	16.8	154	30.4	267	52.8
India	553	40.0	503	36.4	326	23.6
Korea	686	63.9	317	29.5	71	6.6
Taiwan	863	70.9	309	25.4	45	3.7
China	1,174	48.1	1,009	41.4	257	10.5
Hong Kong	76	80.0	16	16.8	3	3.2
Japan	136	63.6	74	34.6	4	1.9
Middle East	329	71.8	89	19.4	40	8.7
Other Asia	446	62.5	178	24.9	90	12.6
Central America	74	65.5	26	23.0	13	11.5
South America	282	59.5	116	24.5	76	16.0
Africa	328	74.4	76	17.2	37	8.4
Australia & Pacific Islands	66	58.9	30	26.8	16	14.3

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 2-7 Doctorate Recipients by Broad Field and Citizenship

Field	U.S. Citizen	Permanent Resident	Temporary Visa Holder	Total
Physical Sci/Math	3,559	619	1,960	6,138
Engineering	2,682	593	2,401	5,676
Life Sciences	5,092	744	1,858	7,694
Social Sciences	5,016	333	897	6,246
Humanites	4,120	325	544	4,989
Education	5,365	166	365	5,896
Prof/Other Fields	1,834	135	450	2,419
TOTAL	27,668	2,915	8,475	39,058

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 2-8 1997 International Doctorate Recipients by Broad Field and Country of Origin

Country	Physical Sci/Math	Engineering	Life Sciences	Social Sciences	Humanities	Education	Prof/Other Fields	Total
Leading Countries								
China	719	628	819	116	52	52	54	2,440
India	288	584	252	101	25	18	114	1,382
Taiwan	221	420	296	106	36	83	55	1,217
Korea	190	292	165	163	100	56	108	1,07[illegible]
Canada	62	45	93	70	87	34	24	415
Other Countries								
Germany	82	27	40	29	56	5	7	246
Japan	28	37	13	58	42	26	10	214
United Kingdom	26	12	35	25	46	11	11	166
Mexico	24	26	50	30	18	11	3	162
Brazil	40	40	44	14	13	5	4	160
Turkey	21	86	13	21	5	2	12	160
Russia	104	21	20	7	3	2	1	158
Greece	36	30	19	16	6	5	5	117
Iran	20	58	23	7	2	1	3	114
Italy	35	11	15	24	22	1	3	111
France	31	12	20	12	30	2	2	109
Thailand	11	35	29	12	3	12	5	107
Hong Kong	38	13	22	12	5	0	5	95
Argentina	22	15	13	16	19	5	1	91
Spain	12	9	18	10	35	1	1	86
Saudi Arabia	10	29	7	13	3	7	12	81
Australia	13	8	18	14	13	10	4	80
Indonesia	6	21	17	17	4	9	6	80
Philippines	23	10	20	11	6	4	4	78
Egypt	13	44	9	4	2	2	1	75

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 2-9 1997 Doctorate Recipients by Citizenship Status and the Institution's Carnegie Classification

Carnegie Classification	U.S. Citizen	Permanent Resident	Temporary Visa Holder	Total
Research I	18,017	2,041	6,093	26,151
Research II	3,171	303	1,033	4,507
Doctoral I	2,981	238	530	3,749
Doctoral II	1,371	138	350	1,859
Other	1,684	149	286	2,119
TOTAL	27,224	2,869	8,292	38,385

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

Table 2-10 Ph.D. Recipients Who Report United States as Postdoctoral Location, by Country/Region of Citizenship

Country	Number	Percent
Canada	239	62.7
Mexico	68	46.3
Italy	58	56.9
Greece	73	68.9
France	57	64.0
United Kingdom	125	81.7
Germany	145	65.6
Scandinavia	51	53.1
W. Europe	162	61.1
E. Europe	404	86.9
India	1,131	91.1
Korea	387	39.1
Taiwan	639	57.1
China	1,976	95.0
Hong Kong	68	80.0
Japan	96	48.2
Middle East	202	49.1
Other Asia	326	50.5
Central America	59	58.4
South America	207	48.3
Africa	218	58.6
Australia & Pacific Islands	55	53.4

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates.

APPENDIXES

APPENDIX CONTENTS

Page

A The Seven Basic Tables, 1997 81

A-1 Number of Doctorate Recipients, by Sex and Subfield, 1997 86
A-2 Number of Doctorate Recipients, by Citizenship, Race/Ethnicity, and Subfield, 1997 88
A-3a Statistical Profile of Doctorate Recipients, by Major Field, 1997 (Total 92
A-3b Statistical Profile of Doctorate Recipients, by Major Field, 1997 (Men) 94
A-3c Statistical Profile of Doctorate Recipients, by Major Field, 1997 (Women) 96
A-4 Statistical Profile of Doctorate Recipients, by Race/Ethnicity and Citizenship, 1997 98
A-5 Sources of Graduate School Support for Doctorate Recipients, by Broad Field and Sex, 1997 100
A-6 State of Doctoral Institution of Doctorate Recipients, by Broad Field and Sex, 1997 101
A-7 Institutions Granting Doctorates, by Major Field, 1997 102

B Trend Tables, 1987-1997 111

B-1 Number of Doctorate Recipients, by Subfield, 1987-1997 113
B-2a Number of Doctorate Recipients, by Sex, Race/Ethnicity, and Citizenship, 1977, 1982, and 1987-1997 (Total) 117
B-2b Number of Doctorate Recipients, by Sex, Race/Ethnicity, and Citizenship, 1977, 1982, and 1987-1997 (Men) 118
B-2c Number of Doctorate Recipients, by Sex, Race/Ethnicity, and Citizenship, 1977, 1982, and 1987-1997 (Women) 119

C Technical Notes 121

I. Survey Response Rates 121
II. Item Response Rates 122
III. Derived Variables 127

D Survey of Earned Doctorates Questionnaire, 1996-1997 131

E Field Classification and Research Degree Titles 145

APPENDIX A: The Seven Basic Tables, 1997

Appendix A includes the following seven tables:

A-1 Number of Doctorate Recipients, by Sex and Subfield, 1997
A-2 Number of Doctorate Recipients, by Citizenship, Race/Ethnicity, and Subfield, 1997
A-3 Statistical Profile of Doctorate Recipients, by Major Field, 1997
A-4 Statistical Profile of Doctorate Recipients, by Race/Ethnicity and Citizenship, 1997
A-5 Sources of Graduate School Support for Doctorate Recipients, by Broad Field and Sex, 1997
A-6 State of Doctoral Institution of Doctorate Recipients, by Broad Field and Sex, 1997
A-7 Institutions Granting Doctorates, by Major Field, 1997

TABLE A-1 and TABLE A-2: Tables A-1 and A-2 display data for the most recent year by subfield of doctorate. Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates (SED). The "general" field categories—e.g., "chemistry, general"—include individuals who either received the doctorate in the general subject area or did not indicate a particular specialty field. The "other" field categories—e.g., "chemistry, other"—include individuals whose specified doctoral discipline was not among the specialty fields listed.

Table A-1 presents data by doctoral specialty and sex. Table A-2 displays doctoral specialty by citizenship and race/ethnicity. For a detailed description of the racial/ethnic variable, see the explanatory note for Table A-4.

TABLE A-3: Table A-3 is composed of three 2-page tables. The first table includes data on *all* research doctorate recipients from the most recent year; the other two tables present the same data by sex. Field groupings may differ from those in reports published by federal sponsors of the SED. Terms requiring definition are as follows:

Percentage with Master's: The percentage of doctorate recipients in a field who received a master's degree in any field before earning the doctorate.

Median Age at Doctorate: One-half received the doctorate at or before this age. A recipient's age is obtained by subtracting the month/year of birth from the month/year of doctorate. (See note on next page.)

Median Time Lapse: "Total Time" refers to the total calendar time elapsed between the month/year of baccalaureate and the month/year of doctorate. "Registered Time" refers to the actual time in attendance at colleges and universities between receipt of the baccalaureate and the doctorate. Enrollment includes years of attendance not related to a recipient's doctoral program.

NOTE about medians: *The method of computing medians has been revised. Beginning with Summary Report 1994,* ***months*** *(of birth, baccalaureate, and doctorate) are included in the calculations; medians presented in earlier reports were based only on years. Some medians would be the same regardless of the method of computation, but the new method generally computes slightly different results than are obtained by the old method. While variation is small (usually one or two decimal places), the reader should consider these differences when comparing medians presented in this report with those in earlier reports.*

Postgraduation Plans: Each year's doctorate recipients provide information on post-graduation employment or study plans in response to items B1 through B9 on the survey form. Since the questionnaire is filled out around the time the doctorate is awarded, a recipient's plans are subject to change. However, comparisons with the longitudinal Survey of Doctorate Recipients (SDR) have shown SED data to be a reasonable indicator of actual employment status in the year following the doctorate, although results vary by sector. (The SDR is a follow-up employment survey of a sample of doctorate recipients in science, engineering, and, until 1995, humanities fields.)

In Table A-3 the postgraduation plans of doctorate recipients are grouped as follows: "Postdoctoral Study Plans" (fellowship, research associateship, traineeship, other), "Planned Employment after Doctorate" (educational institution, industry, etc.), and "Postdoctoral Plans Unknown." These categories include recipients who were still negotiating or seeking positions at the time of survey completion, as well as those whose plans were definite. The sum of these lines equals 100 percent for each column, with allowance for rounding: for example, 19.5 percent of all engineers had postdoctoral study plans, 70.8 percent planned to be employed, and 9.6 percent did not report their post-graduation plans, totaling 100 percent. The study and employment rows are further subdivided. The data on study plans show that 6.1 percent of all engineers planned to pursue postdoctoral fellowships; 12.3 percent, research associateships; 0.8 percent, traineeships; and 0.3 percent, some other form of postdoctoral study. These percentages sum to 19.5 percent, the proportion of engineers who reported plans for postdoctoral study. The employment row is similarly subdivided by type of employer. The percentages for these rows add to 70.8 percent—the proportion of engineering Ph.D.s who planned employment. The category for educational institutions includes elementary and secondary schools as well as colleges and universities, and the category for government includes military service.

The four lines of data beginning with "Definite Postdoctoral Study" distinguish between individuals who had definite postgraduation plans at the time of survey completion (item B1: "Am returning to, or continuing in, predoctoral employment" or "Have signed contract or made definite commitment") and those who were still seeking employment or postdoctoral study (item B1: "Am negotiating with one or more specific organizations," "Am seeking position but have no specific prospects," or "Other"). These four lines, when added to the prior line, "Postdoctoral Plans Unknown," total 100 percent with allowance for rounding. The two lines "Definite Postdoctoral Study" and "Seeking Postdoctoral Study" add to give the percentage for "Postdoctoral Study Plans"; the two lines "Definite Employment" and "Seeking Employment" add to give the percentage for "Planned Employment After Doctorate."

Percentages showing the distribution of doctorate recipients by postdoctoral work activity and region of employment are based only on the number of recipients who had *definite employment* commitments at the time they completed the questionnaire. These percentages exclude recipients who planned postdoctoral study (as described above) and recipients who were still *seeking* employment at the time they completed the questionnaire. (Note that the rows on specific postdoctoral study and employment plans discussed earlier include individuals whose plans were *not definite*.) Revisions to the questionnaire format beginning in 1990 resulted in higher rates of nonresponse to the item on work activity through 1993, when the rate was 15.1 percent. The questionnaire was revised again in 1994, and nonresponse subsequently dropped to 11.9 percent in 1994 and 10.7 in 1995. A final revision in 1995 dropped the nonresponse for this item to just 3.4 percent in 1997.

The U.S. regions of employment shown in Table A-3 include the following states and territories:

New England:	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
Middle Atlantic:	New Jersey, New York, Pennsylvania
East North Central:	Illinois, Indiana, Michigan, Ohio, Wisconsin
West North Central:	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
South Atlantic:	Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia
East South Central:	Alabama, Kentucky, Mississippi, Tennessee
West South Central:	Arkansas, Louisiana, Oklahoma, Texas
Mountain:	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming
Pacific & Insular:	Alaska, California, Hawaii, Oregon, Washington, American Samoa, Guam, Puerto Rico, Trust Territory, Virgin Islands

TABLE A-4: Table A-4 contains data by race/ethnicity and citizenship for selected variables included in Tables A-3 and A-5. Field groupings may differ from those in reports published by federal sponsors of the SED.

The racial/ethnic question has undergone several revisions over the years. In 1977 it was modified to correspond to a standard question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys; an explanation of the effect of these changes is detailed on page 13 of *Summary Report 1977.* (Note: Changes in the OMB guidelines prompted the moving of persons having origins in the Indian subcontinent from the white category to the Asian category.) In 1980 the item was further revised in two ways: (1) the Hispanic category was subdivided into Puerto Rican, Mexican American, and other Hispanic to provide more detail for users of the racial/ethnic data, and (2) respondents were asked to check only one racial category. (Before 1980 doctorate recipients could check more than one category to indicate their race.) The item was modified again in 1982 to separate the questions on race and ethnicity. Since then respondents have been asked to first check one of the four racial group categories (American Indian, Asian, black, or white) and then indicate whether or not they are Hispanic. In Table A-4, Ph.D.s who reported Hispanic heritage, regardless of racial designation, are included in one of three Hispanic groups: Puerto Rican, Mexican American, or other Hispanic. The remaining survey respondents are then counted in the respective racial groups. (Note: Doctorate recipients who checked the category "American Indian or Alaskan Native" are identified as American Indian in this report.)

NOTE about median age and time lapse (to doctorate): *The method of computing medians has been revised. Beginning with Summary Report 1994,* ***months*** *(of birth, baccalaureate, and doctorate) are included in the calculations; medians presented in earlier reports were based only on years. Some medians would be the same regardless of the method of computation, but the new method generally computes slightly different results. While variation is small (usually one or two decimal places), the reader should consider these differences when comparing medians presented in this report with those in earlier reports. See explanatory information on Table A-3 for further description.*

In the section of "Graduate School Support" a recipient counts in more than one category if support was received from multiple sources. Because a student counts more than once for sources of support, the vertical percentages sum to more than 100 percent. See the explanatory note on Appendix Table A-5 for further detail. (Data on the *primary* source of support for doctorate recipients are presented in the body of the report.)

The other sections in Table A-4 correspond to many of those in Appendix Table A-3. The reader is referred to the explanatory note on Table A-3 for additional information.

TABLE A-5: Table A-5 displays data reported in item A11 on sources of financial support received during graduate school, by broad field and sex of recipient. Field groupings may differ from those in reports published by federal sponsors of the SED.

A recipient counts in more than one category in Table A-5 if support was received from multiple sources. Because a student counts once for each of his/her sources of support, the vertical percentages sum to more than 100 percent. (Data on the *primary* source of support for doctorate recipients are presented in the body of the report.)

Beginning with *Summary Report 1990,* federal research assistantships (RAs) have been aggregated with university RAs and shown under "University Research Assistant" in Table A-5. (Focus groups of doctoral candidates have indicated uncertainty as to the source of their RA funding; it is therefore likely that some RAs have incorrectly identified support provided by the federal government as university rather than federal.) The reader is advised *not* to compare sources of support data presented in the 1990-1997 *Summary Reports* with data in earlier reports because percentages appear higher for university support and lower for federal support in tables where all RAs are aggregated as "University Research Assistants."

The data in Table A-5 should be interpreted as follows: 448 male doctorate recipients in the physical sciences in 1997 reported financial support from federal fellowships or traineeships during graduate school. This number is 9.5 percent of the male physical sciences Ph.D.s who answered the question on sources of support, and 17.4 percent of all males in *any* field who reported federal fellowship or traineeship support.

TABLE A-6: Table A-6 shows, by broad field and sex, the number of persons receiving a doctorate in the most recent year from institutions in each of the 50 states, the District of Columbia, and Puerto Rico. Field groupings may differ from those in reports published by federal sponsors of the SED. See inside the back cover for a description of field groupings as reported in this table; see the questionnaire's Specialties List at the back of the report for the names and codes of the subfields included.

TABLE A-7: Table A-7 displays data by doctorate-granting institution and major field. It includes all institutions in the United States (the 50 states, the District of Columbia, and Puerto Rico) that awarded doctoral degrees in the most recent year. Field groupings may differ from those in reports published by federal sponsors of the SED and from departmental designations at institutions.

APPENDIX TABLE A-1 Number of Doctorate Recipients, by Sex and Subfield, 1997

Subfield of Doctorate	Number of Doctorates		
	Total*	Men	Women
TOTAL ALL FIELDS	42,705	24,999	17,322
PHYSICAL SCIENCES	6,574	5,088	1,441
MATHEMATICS	1,112	845	260
Applied Mathematics	241	186	54
Algebra	79	58	21
Analysis & Functional Analysis	103	90	13
Geometry	70	57	13
Logic	23	18	5
Number Theory	46	35	11
Mathematical Statistics	182	134	46
Topology	62	48	14
Computing Theory & Practice	14	13	1
Operations Research	20	15	5
Mathematics, General	143	98	41
Mathematics, Other	129	93	36
COMPUTER SCIENCE	889	733	144
Computer Science	812	678	127
Information Sciences & Systems	77	55	17
PHYSICS & ASTRONOMY	1,576	1,345	220
Astronomy	72	55	17
Astrophysics	125	107	18
Acoustics	19	15	4
Chemical & Atomic/Molecular	105	94	11
Elementary Particles	170	149	21
Fluids	24	24	0
Nuclear	105	93	11
Optics	123	107	16
Plasma & High-Temperature	39	37	2
Polymer	19	12	7
Solid State & Low-Temperature	327	277	50
Physics, General	246	205	31
Physics, Other	202	170	32
CHEMISTRY	2,115	1,500	605
Analytical	351	244	106
Inorganic	276	195	81
Nuclear	8	8	0
Organic	567	421	145
Medicinal/Pharmaceutical	107	64	43
Physical	333	242	90
Polymer	110	85	25
Theoretical	48	37	11
Chemistry, General	231	156	69
Chemistry, Other	84	48	35
EARTH, ATMOS., & MARINE SCI.	882	665	212
Atmospheric Physics & Chemistry	43	34	9
Atmospheric Dynamics	25	20	5
Meteorology	28	25	3
Atmos. Sci./Meteorology, General	36	31	5
Atmos. Sci./Meteorology, Other	15	13	2
Geology	162	121	38
Geochemistry	50	35	15
Geophysics & Seismology	105	87	18
Paleontology	23	12	11
Mineralogy, Petrology	18	12	6
Stratigraphy, Sedimentation	23	16	7
Geomorphology & Glacial Geology	26	22	4
Geological & Related Sci., General	15	11	4
Geological & Related Sci., Other	17	11	6
Environmental Science	92	66	26
Hydrology & Water Resources	43	35	8
Oceanography	112	81	30
Marine Sciences	29	22	7
Misc. Physical Sciences, Other	20	11	8
ENGINEERING	6,052	5,264	747
Aerospace, Aeronautic., Astronautic	272	255	16
Agricultural	78	64	12
Bioengineering & Biomedical	205	150	52
Ceramic Sciences	40	32	8
Chemical	659	549	107
Civil	591	519	70
Communications	32	29	3
Computer	219	198	21
Electrical, Electronics	1,444	1,308	126
Engineering Mechanics	95	88	6
Engineering Physics	24	20	4
Engineering Science	46	38	8
Environmental Health Engineering	62	52	10
Industrial/Manufacturing	241	202	36
Materials Science	477	379	96
Mechanical	915	831	81
Metallurgical	56	54	2
Mining & Mineral	33	30	3
Nuclear	99	90	8
Ocean	34	28	5
Operations Research	75	59	16
Petroleum	51	48	3
Polymer/Plastics	54	41	13
Systems	49	39	10
Engineering, General	50	39	3
Engineering, Other	151	122	28
LIFE SCIENCES	8,213	4,487	3,669
BIOLOGICAL SCIENCES	5,717	3,220	2,463
Biochemistry	821	454	360
Biomedical Sciences	158	90	62
Biophysics	148	107	41
Biotechnology Research	11	8	3
Bacteriology	13	12	1
Plant Genetics	29	18	11
Plant Pathology	33	23	8
Plant Physiology	46	28	18
Botany, Other	91	60	31
Anatomy	50	31	19
Biometrics and Biostatistics	85	39	45
Cell Biology	249	136	113
Ecology	250	144	105
Developmental Biology/Embryology	114	53	61
Endocrinology	17	8	9
Entomology	122	81	40
Biological Immunology	211	119	92
Molecular Biology	768	437	329
Microbiology	407	224	180
Neuroscience	432	244	186
Nutritional Sciences	123	32	91
Parasitology	17	7	10
Toxicology	180	100	80
Human & Animal Genetics	213	110	102
Human & Animal Pathology	106	64	42
Human & Animal Pharmacology	296	155	141
Human & Animal Physiology	225	143	82
Zoology, Other	96	61	35
Biological Sciences, General	193	110	80
Biological Sciences, Other	213	122	86
HEALTH SCIENCES	1,394	462	916
Speech-Lang. Pathology & Audiology	83	11	72
Environmental Health	67	37	28
Health Systems/Services Admin.	66	35	29
Public Health	139	52	84
Epidemiology	152	56	94
Exercise Physiology/Sci., Kinesiology	103	63	40
Nursing	413	13	398
Pharmacy	142	86	56
Rehabilitation/Theraputic Services	28	14	14
Veterinary Medicine	47	28	19
Health Sciences, General	45	22	21
Health Sciences, Other	109	45	61
AGRICULTURAL SCIENCES	1,102	805	290
Agricultural Economics	135	100	35
Agricultural Business & Management	1	1	0
Animal Breeding & Genetics	24	20	4
Animal Nutrition	55	40	14
Dairy Science	14	9	5
Poultry Science	9	7	2
Fisheries Science & Management	43	38	5
Animal Sciences, Other	59	45	13
Agronomy & Crop Science	76	66	10
Plant Breeding & Genetics	67	57	9
Plant Pathology	64	38	26
Plant Sciences, Other	19	13	6
Food Engineering	11	8	3
Food Sciences, Other	172	93	77
Soil Chemistry/Microbiology	32	23	9
Soil Sciences, Other	55	47	8
Horticulture Science	44	28	16
Forest Biology	22	21	1
Forest Engineering	13	9	2
Forest Management	21	17	4

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-1 Number of Doctorate Recipients, by Sex and Subfield, 1997

	Number of Doctorates		
Subfield of Doctorate	Total*	Men	Women
Wood Sci. & Pulp/Paper Tech.	25	23	2
Conservation/Renewable Nat. Res.	17	10	7
Forestry & Related Sci., Other	52	37	15
Wildlife/Range Management	48	36	12
Agricultural Sciences, General	8	7	1
Agricultural Sciences, Other	16	12	4
SOCIAL SCIENCES (INCL. PSYCH.)	6,917	3,241	3,613
Anthropology	430	186	240
Area Studies	10	5	5
Criminology	50	24	25
Demography/Population Studies	24	8	16
Economics	982	737	227
Econometrics	29	24	4
Geography	145	94	51
International Relations/Affairs	84	65	18
Political Science and Government	654	463	190
Public Policy Analysis	128	76	52
Sociology	571	254	315
Statistics	56	33	23
Urban Affairs/Studies	91	58	29
Social Sciences, General	20	11	9
Social Sciences, Other	154	67	85
PSYCHOLOGY	3,489	1,136	2,324
Clinical	1,261	355	896
Cognitive & Psycholinguistics	162	87	75
Comparative	6	3	3
Counseling	477	166	307
Developmental and Child	211	41	167
Human/Indv. & Family Development	123	24	99
Experimental	140	73	67
Educational	60	14	44
Family & Marriage Counseling	61	20	41
Industrial & Organizational	184	81	103
Personality	25	13	12
Physiological/Psychobiology	77	35	42
Psychometrics	11	4	7
Quantitative	17	7	10
School	84	18	66
Social	179	64	115
Psychology, General	286	97	181
Psychology, Other	125	34	89
HUMANITIES	5,387	2,774	2,572
History, American	371	238	133
History, Asian	54	38	15
History, European	245	140	105
History/Philosophy of Sci. & Tech.	34	21	13
History, General	79	49	27
History, Other	171	109	61
Classics	53	31	22
Comparative Literature	181	74	104
Linguistics	243	106	135
Speech & Rhetorical Studies	132	59	73
Letters, General	23	7	16
Letters, Other	60	25	35
American Studies	80	34	46
Archeology	34	15	19
Art History/Criticism/Conservation	188	56	132
Music	728	413	308
Philosophy	458	322	119
Religion	295	204	89
Drama/Theater Arts	115	60	55
LANGUAGE & LITERATURE	1,733	724	1,005
American	405	167	238
English	675	294	381
French	150	47	103
German	83	35	47
Italian	23	5	18
Spanish	249	110	139
Russian	39	15	24
Slavic	9	2	7
Chinese	23	11	12
Japanese	19	10	9
Hebrew	8	5	3
Arabic	4	3	1
Other Language & Literature	46	20	23
Humanities, General	23	7	16
Humanities, Other	87	42	44
EDUCATION	6,497	2,367	4,079
Curriculum & Instruction	904	278	623
Educational Admin. & Supervision	1,020	427	585
Educational Leadership	1,036	423	607
Educ./Instruct. Media Design	92	38	53
Educ. Stat./Research Methods	58	18	40
Educ. Assess., Test., & Meas.	29	12	17
Educational Psychology	356	114	241
School Psychology	115	35	80
Social/Phil. Found. Of Educ.	135	51	82
Special Education	263	47	216
Counseling Educ./Couns. & Guidance	203	72	131
Higher Educ./Evaluation & Research	509	215	292
Pre-elementary/Early Childhood	42	6	36
Elementary Education	54	9	45
Secondary Education	25	11	14
Adult & Continuing Education	161	64	97
TEACHING FIELDS	894	346	545
Agricultural Education	38	26	11
Art Education	29	8	20
Business Education	22	11	11
English Education	60	16	44
Foreign Languages Education	45	12	33
Health Education	59	16	42
Home Economics Education	13	3	10
Technical/Industrial Arts Education	19	10	9
Mathematics Education	88	37	51
Music Education	98	46	52
Nursing Education	22	1	21
Physical Education and Coaching	108	52	56
Reading Education	68	10	58
Science Education	73	33	40
Social Science Education	27	12	15
Technical Education	32	15	17
Trade & Industrial Education	16	8	8
Teacher Ed./Spec. Acad. & Voc., Other	77	30	47
Education, General	317	116	181
Education, Other	284	85	194
PROFESSIONAL/OTHER FIELDS	3,065	1,778	1,201
BUSINESS AND MANAGEMENT	1,221	841	370
Accounting	149	92	57
Banking/Financial Support Services	69	56	13
Business Admin. & Management	408	281	118
Business/Managerial Economics	48	37	11
International Business	39	33	6
Mgmt. Info. Sys./Bus. Data Proc.	100	75	25
Marketing Management & Research	151	107	44
Operations Research	44	34	10
Organizational Behavior	122	62	60
Bus. Mgmt./Admin. Serv., General	27	22	5
Bus. Mgmt./Admin. Serv., Other	64	42	21
COMMUNICATIONS	325	157	166
Communications Research	51	18	32
Mass Communications	114	70	44
Communications Theory	40	15	25
Communications, General	71	36	34
Communications, Other	49	18	31
OTHER PROFESSIONAL FIELDS	756	414	336
Architectural Environmental Design	65	42	21
Home Economics	36	5	31
Law	26	17	8
Library Science	41	13	28
Parks/Recreation/Leisure/Fitness	20	11	9
Public Administration	95	65	29
Social Work	237	83	152
Theology/Religious Education	176	141	35
Professional Fields, General	4	4	0
Professional Fields, Other	56	33	23
OTHER/UNKNOWN FIELDS	763	366	329

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*Total includes 384 doctorate recipients whose sex was unknown.

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See last page of report for a description of fields in this table. Refer also to the explanatory note about this table at the beginning of Appendix A.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-2 Number of Doctorate Recipients by Citizenship, Race/Ethnicity, and Subfield, 1997

Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	U.S. Citizens and Non-U.S. with Permanent Visas								
			Total	American Indian	Asian	Black	White	Puerto Rican	Mexican Amer.	Other His-panic	Unkn. Race
TOTAL ALL FIELDS	42,705	8,475	30,583	151	3,140	1,476	23,789	294	299	570	864
PHYSICAL SCIENCES	6,574	1,960	4,178	13	680	70	3,163	31	24	55	142
MATHEMATICS	1,112	418	614	1	99	7	470	2	3	11	21
Applied Mathematics	241	102	126	0	24	1	92	0	0	3	6
Algebra	79	23	55	0	8	1	46	0	0	0	0
Analysis & Functional Analysis	103	40	59	1	10	0	45	1	0	1	1
Geometry	70	34	35	0	7	1	25	1	0	0	1
Logic	23	5	18	0	1	1	12	0	0	2	2
Number Theory	46	20	22	0	3	0	19	0	0	0	0
Mathematical Statistics	182	74	98	0	25	1	69	0	0	1	2
Topology	62	27	35	0	2	1	29	0	0	0	3
Computing Theory & Practice	14	6	7	0	2	0	5	0	0	0	0
Operations Research	20	8	12	0	0	0	12	0	0	0	0
Mathematics, General	143	37	62	0	11	0	43	0	1	2	5
Mathematics, Other	129	42	85	0	6	1	73	0	2	2	1
COMPUTER SCIENCE	889	314	506	1	106	4	357	6	2	8	22
Computer Science	812	303	454	1	97	3	319	4	2	7	21
Information Sciences & Systems	77	11	52	0	9	1	38	2	0	1	1
PHYSICS & ASTRONOMY	1,576	453	1,032	3	168	17	781	7	6	12	38
Astronomy	72	10	58	1	1	1	46	0	0	2	7
Astrophysics	125	24	99	0	7	1	85	0	0	1	5
Acoustics	19	3	16	0	0	0	14	0	0	0	2
Chemical & Atomic/Molecular	105	38	64	0	17	2	40	0	1	1	3
Elementary Particle	170	64	103	0	23	0	73	3	2	1	1
Fluids	24	7	15	0	4	0	11	0	0	0	0
Nuclear	105	30	74	1	12	2	55	1	0	0	3
Optics	123	31	89	0	12	4	69	1	1	1	1
Plasma & High-Temperature	39	12	27	0	1	2	23	0	0	0	1
Polymer	19	9	10	0	2	0	8	0	0	0	0
Solid State & Low-Temperature	327	121	203	1	38	2	155	2	1	1	3
Physics, General	246	49	139	0	30	3	96	0	1	3	6
Physics, Other	202	55	135	0	21	0	106	0	0	2	6
CHEMISTRY	2,115	561	1,425	6	235	33	1,071	12	9	17	42
Analytical	351	90	253	3	43	7	196	0	1	1	2
Inorganic	276	61	208	0	23	4	164	4	2	5	6
Nuclear	8	3	5	0	1	0	4	0	0	0	0
Organic	567	158	397	0	72	10	295	3	4	4	9
Medicinal/Pharmaceutical	107	32	73	0	16	3	52	1	0	1	0
Physical	333	93	229	1	27	5	183	0	1	3	9
Polymer	110	41	65	1	22	0	39	0	0	1	2
Theoretical	48	22	26	0	4	0	20	0	0	1	1
Chemistry, General	231	36	116	1	14	3	82	4	0	1	11
Chemistry, Other	84	25	53	0	13	1	36	0	1	0	2
EARTH, ATMOS., & MARINE SCI.	882	214	601	2	72	9	484	4	4	7	19
Atmospheric Physics & Chem.	43	9	30	0	8	0	20	0	0	0	2
Atmospheric Dynamics	25	11	13	0	3	0	10	0	0	0	0
Meteorology	28	9	19	0	3	0	16	0	0	0	0
Atmos.Sci./Meteorology, General	36	10	25	0	4	0	20	0	0	0	1
Atmos.Sci./Meteorology, Other	15	2	12	0	1	0	11	0	0	0	0
Geology	162	30	121	0	9	2	105	1	1	1	2
Geochemistry	50	13	34	0	3	2	28	0	1	0	0
Geophysics & Seismology	105	35	63	0	15	0	45	0	1	0	2
Paleontology	23	3	20	0	1	1	16	0	0	0	2
Mineralogy, Petrology	18	5	12	0	2	0	8	1	0	1	0
Stratigraphy, Sedimentation	23	4	19	0	2	0	14	1	0	1	1
Geomorphology & Glacial Geol.	26	0	26	0	0	0	25	0	1	0	0
Geological & Related Sci., General	15	2	10	0	0	0	8	0	0	0	2
Geological & Related Sci., Other	17	5	12	0	0	0	10	0	0	1	1
Environmental Science	92	16	65	0	10	2	50	0	0	1	2
Hydrology & Water Resources	43	14	22	0	2	1	19	0	0	0	0
Oceanography	112	36	64	0	5	1	54	0	0	1	3
Marine Sciences	29	9	19	2	3	0	11	1	0	1	1
Misc. Physical Sciences, Other	20	1	15	0	1	0	14	0	0	0	0
ENGINEERING	6,052	2,401	3,275	12	704	97	2,262	17	17	55	111
Aerospace, Aeronautic., Astronautic.	272	95	166	0	16	2	138	0	1	3	6
Agricultural	78	31	38	0	4	0	29	1	0	1	3
Bioengineering & Biomedical	205	55	140	0	31	3	100	3	0	2	1
Ceramic Science	40	15	23	0	2	0	20	0	0	1	0
Chemical	659	261	371	2	64	14	269	1	3	3	15
Civil	591	270	287	1	65	9	195	2	0	5	10
Communications	32	16	16	0	4	0	10	0	0	1	1
Computer	219	89	122	1	33	3	79	0	1	0	5

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See last page of report for a description of fields in this table. Refer also to the explanatory note about this table at the beginning of Appendix A.

*Includes 3,647 individuals who did not report their citizenship at time of doctorate. See the "Important Notice" at the front of this report for discussion of item response rate issues.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-2 Number of Doctorate Recipients by Citizenship, Race/Ethnicity, and Subfield, 1997

Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	U.S. Citizens and Non-U.S. with Permanent Visas								
			Total	American Indian	Asian	Black	White	Puerto Rican	Mexican Amer.	Other His-panic	Unkn. Race
Electrical, Electronics	1,444	555	789	3	216	28	486	4	4	16	32
Engineering Mechanics	95	48	41	0	6	1	32	0	0	0	2
Engineering Physics	24	6	16	0	4	1	10	0	0	1	0
Engineering Science	46	22	23	0	4	1	18	0	0	0	0
Environmental Health Engineering	62	25	33	1	9	1	20	0	1	0	1
Industrial/Manufacturing	241	111	114	0	21	9	77	2	0	2	3
Materials Science	477	186	266	0	53	[illegible]	194	1	3	5	7
Mechanical	915	380	487	4	105	11	341	3	3	6	14
Metallurgical	56	29	25	0	4	1	20	0	0	0	0
Mining & Mineral	33	17	15	0	5	0	10	0	0	0	0
Nuclear	99	33	56	0	5	2	46	0	0	1	2
Ocean	34	13	16	0	5	0	11	0	0	0	0
Operations Research	75	24	48	0	14	0	32	0	0	1	1
Petroleum	51	32	14	0	2	2	9	0	0	0	1
Polymer/Plastics	54	31	20	0	7	0	13	0	0	0	0
Systems	49	11	36	0	4	2	29	0	0	0	1
Engineering, General	50	2	24	0	6	0	14	0	0	0	4
Engineering, Other	151	44	89	0	15	4	60	0	1	7	2
LIFE SCIENCES	8,213	1,858	5,836	18	873	191	4,414	45	51	102	142
BIOLOGICAL SCIENCES	5,717	1,214	4,200	9	717	108	3,120	34	42	66	104
Biochemistry	821	190	584	0	130	13	418	5	2	7	9
Biomedical Sciences	158	35	107	1	28	4	67	1	1	2	3
Biophysics	148	39	104	0	22	5	69	0	1	2	5
Biotechnology Research	11	5	5	0	2	0	3	0	0	0	0
Bacteriology	13	3	10	0	0	0	9	0	1	0	0
Plant Genetics	29	8	21	0	2	1	17	0	0	0	1
Plant Pathology	33	14	16	0	3	0	10	0	0	0	3
Plant Physiology	46	18	26	0	3	1	19	1	1	1	0
Botany, Other	91	15	68	0	4	1	60	0	0	1	2
Anatomy	50	8	34	0	6	0	25	1	0	1	1
Biometrics and Biostatistics	85	26	52	0	16	0	35	0	0	0	1
Cell Biology	249	43	199	2	31	3	151	1	4	4	3
Ecology	250	29	215	0	5	2	198	0	4	2	4
Developmental Biology/Embryology	114	25	88	0	16	3	64	0	2	1	2
Endocrinology	17	7	8	0	3	0	4	0	1	0	0
Entomology	122	40	71	0	8	1	55	1	2	1	3
Biological Immunology	211	44	163	0	34	3	113	1	3	3	6
Molecular Biology	768	194	554	2	126	11	391	3	4	8	9
Microbiology	407	95	287	0	45	5	212	6	5	3	11
Neuroscience	432	64	353	0	60	6	265	5	3	7	7
Nutritional Sciences	123	37	82	0	11	4	63	1	0	0	3
Parasitology	17	8	9	0	0	1	7	0	0	1	0
Toxicology	180	30	143	0	14	8	116	0	2	1	2
Human & Animal Genetics	213	43	160	0	20	3	129	1	0	3	4
Human & Animal Pathology	106	23	73	0	19	3	47	1	1	1	1
Human & Animal Pharmacology	296	54	229	1	47	18	152	1	2	3	5
Human & Animal Physiology	225	40	177	1	21	7	134	3	1	5	5
Zoology, Other	96	9	82	1	2	2	74	0	1	2	0
Biological Sciences, General	193	38	113	0	19	0	82	0	0	2	10
Biological Sciences, Other	213	30	167	1	20	3	131	2	1	5	4
HEALTH SCIENCES	1,394	252	1,009	5	86	55	817	7	7	15	17
Speech-Lang. Pathology & Audiology	83	12	68	0	5	5	53	0	1	1	3
Environmental Health	67	8	45	0	11	1	32	0	0	1	0
Health Systems/Services Admin.	66	11	38	0	3	2	33	0	0	0	0
Public Health	139	22	98	1	9	7	75	1	1	3	1
Epidemiology	152	23	112	0	10	7	90	1	0	2	2
Exercise Physiology/Sci., Kinesiology	103	21	78	0	1	3	72	1	1	0	0
Nursing	413	39	363	3	17	18	314	1	2	4	4
Pharmacy	142	78	59	0	16	2	35	2	1	0	3
Rehabilitation/Therapeutic Services	28	3	24	0	0	2	21	0	0	1	0
Veterinary Medicine	47	19	24	0	3	1	17	0	1	0	2
Health Sciences, General	45	5	27	1	4	4	15	1	0	1	1
Health Sciences, Other	109	11	73	0	7	3	60	0	0	2	1
AGRICULTURAL SCIENCES	1,102	392	627	4	70	28	477	4	2	21	21
Agricultural Economics	135	44	81	0	7	4	67	0	0	1	2
Agricultural Business & Management	1	1	0	0	0	0	0	0	0	0	0
Animal Breeding & Genetics	24	12	8	0	0	0	6	0	1	0	1
Animal Nutrition	55	17	34	0	0	2	30	0	0	2	0
Dairy Science	14	3	10	0	1	0	8	0	0	0	1
Poultry Science	9	4	5	0	0	0	5	0	0	0	0
Fisheries Science & Management	43	9	32	1	2	1	27	0	0	1	0
Animal Sciences, Other	59	20	34	0	6	2	22	1	1	0	2
Agronomy & Crop Science	76	30	38	1	4	2	29	0	0	1	1
Plant Breeding & Genetics	67	33	31	0	2	0	26	1	0	2	0
Plant Pathology	64	22	31	0	6	1	22	0	0	2	0
Plant Sciences, Other	19	5	12	0	0	0	12	0	0	0	0
Food Engineering	11	8	3	0	0	0	3	0	0	0	0
Food Sciences, Other	172	73	84	0	23	3	49	0	0	6	3
Soil Chemistry/Microbiology	32	11	21	0	1	2	18	0	0	0	0
Soil Sciences, Other	55	26	26	0	2	0	21	0	0	0	3

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-2 Number of Doctorate Recipients by Citizenship, Race/Ethnicity, and Subfield, 1997

			U.S. Citizens and Non-U.S. with Permanent Visas								
Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	Total	American Indian	Asian	Black	White	Puerto Rican	Mexican Amer.	Other His-panic	Unkn. Race
Horticulture Science	44	17	25	0	3	2	17	1	0	1	1
Forest Biology	22	3	19	0	2	0	15	0	0	0	2
Forest Engineering	13	4	4	0	1	0	3	0	0	0	0
Forest Management	21	6	15	1	0	2	11	0	0	0	1
Wood Sci. & Pulp/Paper Tech.	25	10	14	0	2	0	10	0	0	2	0
Conservation/Renewable Nat. Res.	17	5	12	0	3	1	6	0	0	1	1
Forestry & Related Sci., Other	52	14	31	0	3	3	21	0	0	1	3
Wildlife/Range Management	48	8	40	1	0	0	38	0	0	1	0
Agricultural Sciences, General	8	5	3	0	1	1	1	0	0	0	0
Agricultural Sciences, Other	16	2	14	0	1	2	10	1	0	0	0
SOCIAL SCIENCES (INCL. PSYCH.)	6,917	897	5,349	28	322	287	4,319	71	71	110	141
Anthropology	430	54	348	3	12	11	276	4	9	3	30
Area Studies	10	2	8	0	0	2	6	0	0	0	0
Criminology	50	2	46	0	2	4	36	1	2	0	1
Demography/Population Studies	24	8	14	0	2	0	10	0	0	2	0
Economics	982	384	488	1	80	18	351	5	2	15	16
Econometrics	29	17	7	0	2	0	5	0	0	0	0
Geography	145	25	112	0	9	4	92	0	2	2	3
International Relations/Affairs	84	10	67	0	4	2	58	0	0	2	1
Political Science and Government	654	68	541	0	29	26	455	0	5	7	19
Public Policy Analysis	128	22	95	2	7	4	78	0	0	1	3
Sociology	571	91	438	4	28	42	329	2	3	12	18
Statistics	56	31	23	0	6	1	16	0	0	0	0
Urban Affairs/Studies	91	24	54	0	4	11	35	0	1	1	2
Social Sciences, General	20	7	13	0	0	0	12	1	0	0	0
Social Sciences, Other	154	25	119	1	9	10	96	0	0	1	2
PSYCHOLOGY	3,487	127	2,974	17	126	152	2,464	58	47	64	46
Clinical	1,261	19	1,127	9	45	61	921	23	24	28	16
Cognitive & Psycholinguistics	162	23	133	0	4	2	121	0	1	2	3
Comparative	6	2	3	0	2	0	1	0	0	0	0
Counseling	477	5	434	2	19	28	357	3	7	14	4
Developmental and Child	211	13	138	0	3	12	120	0	0	2	1
Human/Indv. & Family Development	123	11	105	0	5	9	87	1	0	1	2
Experimental	140	11	125	3	11	2	99	1	5	2	2
Educational	60	4	47	0	2	4	38	2	1	0	0
Family & Marriage Counseling	61	3	55	0	2	3	44	0	0	4	2
Industrial & Organizational	184	5	[illegible]	0	8	6	143	9	4	4	2
Personality	25	1	24	0	1	2	20	0	0	1	0
Physiological/Psychobiology	77	9	68	1	4	5	54	1	0	2	1
Psychometrics	11	3	8	0	0	0	7	0	0	0	1
Quantitative	17	2	15	0	1	0	14	0	0	0	0
School	84	1	79	0	2	4	71	0	0	0	2
Social	179	8	169	1	10	6	143	2	5	0	2
Psychology, General	286	1	163	1	4	5	130	14	0	3	6
Psychology, Other	125	6	107	0	5	3	94	2	0	1	2
HUMANITIES	5,387	544	4,445	21	205	152	3,717	50	36	120	144
History, American	371	13	356	2	5	13	314	0	5	3	14
History, Asian	54	12	41	0	14	0	25	0	0	0	2
History, European	245	13	230	2	4	3	213	0	1	1	6
History/Philosophy of Sci. & Tech.	34	1	32	0	2	3	25	0	0	0	2
History, General	79	4	49	0	2	2	35	2	0	0	8
History, Other	171	24	142	0	6	10	107	5	1	7	6
Classics	53	8	44	0	0	1	42	1	0	0	0
Comparative Literature	181	31	140	2	11	2	102	6	1	8	8
Linguistics	243	71	159	1	25	3	116	3	1	3	7
Speech & Rhetorical Studies	132	12	118	1	1	8	99	2	0	1	6
Letters, General	23	1	20	0	1	2	17	0	0	0	0
Letters, Other	60	2	53	0	2	1	47	0	0	0	3
American Studies	80	1	77	4	3	7	61	0	0	1	1
Archeology	34	5	28	0	2	0	24	0	0	0	2
Art History/Criticism/Conservation	188	11	162	0	8	7	130	1	1	3	12
Music	728	74	562	3	36	20	478	1	5	9	10
Philosophy	458	49	307	2	10	9	264	9	3	3	7
Religion	295	18	264	0	15	10	229	2	1	3	4
Drama/Theater Arts	115	5	107	0	6	4	95	0	1	1	0
LANGUAGE & LITERATURE	1,733	183	1,457	4	51	36	1,218	18	15	[illegible]	40
American	405	25	374	0	6	21	332	1	3	5	6
English	675	44	590	3	25	8	523	1	3	10	44
French	150	22	121	0	1	3	108	0	1	2	6
German	83	11	67	0	0	1	64	0	0	0	2
Italian	23	7	13	0	2	0	11	0	0	0	0
Spanish	249	50	182	1	4	0	91	16	8	56	6
Russian	39	4	34	0	1	0	33	0	0	0	0
Slavic	9	1	6	0	0	0	5	0	0	0	1
Chinese	23	3	18	0	5	0	12	0	0	0	1
Japanese	19	4	15	0	6	0	9	0	0	0	0
Hebrew	8	2	6	0	0	0	6	0	0	0	0
Arabic	4	1	3	0	0	1	2	0	0	0	0
Other Language & Literature	46	9	28	0	1	2	22	0	0	2	1

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-2 Number of Doctorate Recipients by Citizenship, Race/Ethnicity, and Subfield, 1997

			U.S. Citizens and Non-U.S. with Permanent Visas								
Subfield of Doctorate	Total Doctorates*	Non-U.S. Citizens Temp. Visas	Total	American Indian	Asian	Black	White	Puerto Rican	Mexican Amer.	Other His-panic	Unkn. Race
Humanities, General	23	1	19	0	0	3	14	0	0	0	2
Humanities, Other	87	5	78	0	1	8	62	0	1	2	4
EDUCATION	6,497	365	5,531	48	176	553	4,417	69	87	96	85
Curriculum & Instruction	904	51	810	11	21	71	646	25	8	16	12
Educational Admin. & Supervision	1,020	25	921	6	10	126	732	9	18	11	9
Educational Leadership	1,036	16	902	7	21	102	715	4	20	18	15
Educ./Instruct. Media Design	92	10	79	0	7	8	62	1	0	0	1
Educ. Stat./Research Methods	58	9	49	1	5	3	38	1	0	1	0
Educ. Assess., Test., & Meas.	29	5	22	0	2	1	17	0	0	2	0
Educational Psychology	356	34	310	4	20	23	246	2	5	2	8
School Psychology	115	1	104	0	5	0	92	2	2	2	1
Social/Phil. Found. Of Educ.	135	14	116	0	5	20	83	1	1	3	3
Special Education	263	21	238	1	9	18	195	2	3	3	7
Counseling Educ./Couns. & Guidance	203	13	188	0	3	25	149	5	1	4	1
Higher Educ./Evaluation & Research	509	15	442	4	13	56	346	2	10	6	5
Pre-elementary/Early Childhood	42	5	36	1	2	1	32	0	0	0	0
Elementary Education	54	3	47	0	2	5	38	0	1	1	0
Secondary Education	25	0	25	0	0	0	21	1	1	0	2
Adult & Continuing Education	161	10	145	3	0	10	127	0	1	3	1
TEACHING FIELDS	894	111	752	6	34	47	630	8	5	15	7
Agricultural Education	38	7	26	0	0	1	23	0	1	1	0
Art Education	29	8	19	0	1	2	14	1	0	0	1
Business Education	22	2	20	0	1	2	16	1	0	0	0
English Education	60	6	53	0	2	2	43	3	1	2	0
Foreign Languages Education	45	14	29	1	9	1	15	2	0	1	0
Health Education	59	3	53	1	3	1	48	0	0	0	0
Home Economics Education	13	4	9	2	0	1	6	0	0	0	0
Technical/Industrial Arts Education	19	3	15	0	1	0	12	0	1	1	0
Mathematics Education	88	7	78	0	3	5	68	0	0	0	2
Music Education	98	10	86	1	2	9	73	0	0	1	0
Nursing Education	22	0	22	0	1	0	21	0	0	0	0
Physical Education and Coaching	108	16	90	1	0	2	83	0	1	3	0
Reading Education	68	2	66	0	1	10	52	1	0	1	1
Science Education	73	9	62	0	4	5	50	0	0	2	1
Social Science Education	27	6	20	0	2	4	11	0	1	1	1
Technical Education	32	4	27	0	0	0	26	0	0	1	0
Trade & Industrial Education	16	1	11	0	0	0	11	0	0	0	0
Teacher Ed./Spec. Acad. & Voc., Other	77	9	66	0	4	2	58	0	0	1	1
Education, General	317	5	108	1	2	14	74	4	3	3	7
Education, Other	284	17	237	3	15	23	174	2	8	6	6
PROFESSIONAL/OTHER FIELDS	3,065	450	1,969	11	180	126	1,497	11	13	32	99
BUSINESS AND MANAGEMENT	1,221	267	859	5	88	53	678	3	6	9	17
Accounting	149	25	118	3	6	5	100	0	1	1	2
Banking/Financial Support Services	69	19	50	0	9	1	39	0	0	0	1
Business Admin. & Management	408	59	281	0	22	20	228	0	3	3	5
Business/Managerial Economics	48	10	37	0	12	2	23	0	0	0	0
International Business	39	12	22	0	3	0	16	0	1	0	2
Mgmt. Info. Sys./Bus. Data Proc.	100	38	57	1	7	3	45	0	1	0	0
Marketing Management & Research	151	47	103	0	11	7	79	2	0	2	2
Operations Research	44	18	26	0	8	1	15	0	0	0	2
Organizational Behavior	122	15	106	1	4	11	83	1	0	3	3
Bus. Mgmt./Admin. Serv., General	27	7	18	0	1	2	15	0	0	0	0
Bus. Mgmt./Admin. Serv., Other	64	17	41	0	5	1	35	0	0	0	0
COMMUNICATIONS	325	46	253	0	11	16	211	2	1	6	6
Communications Research	51	7	42	0	3	3	36	0	0	0	0
Mass Communications	114	19	89	0	5	7	71	1	0	2	3
Communications Theory	40	4	35	0	1	2	31	0	0	1	0
Communications, General	71	9	48	0	0	0	42	1	0	3	2
Communications, Other	49	7	39	0	2	4	31	0	1	0	1
OTHER PROFESSIONAL FIELDS	756	130	576	4	36	44	462	5	3	10	12
Architectural Environmental Design	65	19	40	0	5	1	32	0	0	0	2
Home Economics	36	7	27	0	1	1	23	1	1	0	0
Law	26	11	11	0	1	3	6	0	0	0	1
Library Science	41	12	25	0	1	3	20	1	0	0	0
Parks/Recreation/Leisure/Fitness	20	6	13	1	2	0	9	0	0	0	1
Public Administration	95	17	67	0	2	4	56	0	0	4	1
Social Work	237	19	201	2	13	18	158	3	2	2	3
Theology/Religious Education	176	24	149	1	6	12	123	0	0	3	4
Professional Fields, General	4	0	4	0	0	0	4	0	0	0	0
Professional Fields, Other	56	15	39	0	5	2	31	0	0	1	0
OTHER/UNKNOWN FIELDS	763	7	281	2	45	13	146	1	3	7	64

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-3a. Statistical Profile of Doctorate Recipients by Major Field, 1997 (Total All Doctorates)

		1997 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sci.	Mathematics	Computer Sciences	PHYSICAL SCIENCES	ENGINEERING	Biochemistry	Other Biosciences	Health Sciences	Agricultural Sciences	LIFE SCIENCES
Number in Field		42,705*	1,576	2,115	882	1,112	889	6,574	6,052	821	4,896	1,394	1,102	8,213
Men	%	58.5	85.3	70.9	75.4	76.0	82.5	77.4	87.0	55.3	56.5	33.1	73.0	54.6
Women		40.6	14.0	28.6	24.0	23.4	16.2	21.9	12.3	43.8	43.0	65.7	26.3	44.7
Unknown*		0.9	0.7	0.5	0.6	0.6	1.3	0.7	0.7	0.9	0.6	1.1	0.6	0.7
U.S. Citizenship	%	64.8	55.5	57.8	60.2	46.2	46.9	54.1	44.3	60.2	63.9	67.4	48.0	62.0
Non-U.S., Permanent Visa		6.8	10.0	9.6	7.9	9.0	10.0	9.4	9.8	11.0	9.9	5.0	8.9	9.1
Non-U.S., Temporary Visa		19.8	28.7	26.5	24.3	37.6	35.3	29.8	39.7	23.1	20.9	18.1	35.6	22.6
Unknown		8.5	5.8	6.1	7.6	7.2	7.8	6.6	6.2	5.7	5.2	9.5	7.5	6.3
Married	%	53.8	48.7	52.3	56.6	50.0	54.4	51.9	57.1	53.3	54.7	58.2	62.6	56.2
Not Married		34.8	43.1	39.2	34.5	41.5	35.3	39.4	35.7	39.0	38.1	30.3	28.2	35.5
Unknown		11.4	8.1	8.5	9.0	8.5	10.2	8.7	7.1	7.7	7.3	11.4	9.2	8.3
Median Age at Doct.	Yrs	33.6	30.2	29.6	33.2	31.3	32.0	30.8	31.3	30.2	31.4	38.6	34.2	32.3
Percent with Bacc. In Same Field as Doctorate	%	50.8	65.5	72.8	48.0	64.8	37.1	61.5	75.9	23.6	50.4	45.6	49.9	46.9
Percent with Masters	%	72.4	62.9	40.7	74.9	73.7	81.8	61.8	82.8	29.8	44.9	77.8	86.9	54.6
Median Time Lapse from Bacc. To Doct.														
Total Time	Yrs	10.5	7.6	6.9	10.5	8.6	9.8	8.0	8.7	7.6	8.6	14.6	10.6	9.2
Registered Time		7.3	6.9	6.0	7.6	6.9	7.5	6.8	6.5	6.6	7.0	7.9	6.8	7.0
Postdoctoral Study Plans	%	22.9	48.2	48.8	40.7	26.0	13.5	38.9	19.5	73.7	62.6	16.8	30.2	51.6
Fellowship		12.3	21.0	22.4	17.2	12.2	5.2	17.3	6.1	46.9	39.7	10.0	10.2	31.4
Research Assoc.		9.1	25.9	25.3	22.4	11.4	7.5	20.3	12.3	21.3	18.4	5.5	19.1	16.6
Traineeship		0.7	0.8	0.4	0.7	1.5	0.7	0.8	0.8	0.9	1.7	0.6	0.6	1.3
Other Study		0.8	0.4	0.7	0.3	0.8	0.1	0.5	0.3	4.6	2.9	0.6	0.4	2.4
Planned Employment After Doctorate	%	63.6	42.8	41.4	48.6	62.3	75.1	50.8	70.8	17.9	28.5	69.2	56.4	38.1
Educ. Institution★		32.4	8.0	8.6	15.5	31.9	21.7	15.1	11.3	5.7	10.7	35.1	20.1	15.6
Industry/Business		16.7	25.1	26.8	14.9	19.9	45.4	26.1	47.5	6.6	6.1	13.6	19.0	9.2
Government		4.3	3.8	1.5	9.3	2.3	3.7	3.5	6.4	1.0	2.8	8.0	7.5	4.1
Nonprofit		3.1	0.8	0.7	1.8	1.1	1.0	1.0	1.3	0.1	1.4	5.7	2.0	2.1
Other & Unknown		7.0	5.0	3.9	7.1	7.1	3.3	5.1	4.4	4.5	7.5	7.0	7.9	7.2
Postdoc. Plans Unknown	%	13.5	9.1	9.8	10.7	11.7	11.4	10.3	9.6	8.4	8.9	14.0	13.3	10.3
Definite Postdoc. Study	%	16.5	36.9	38.0	28.0	18.0	9.6	29.2	12.2	56.2	48.5	11.9	18.3	39.0
Seeking Postdoc. Study		6.4	11.2	10.8	12.7	8.0	3.9	9.8	7.3	17.5	14.1	4.9	11.9	12.6
Definite Employment		41.6	25.7	26.5	32.5	39.7	56.1	33.4	46.6	9.3	18.1	49.4	33.9	24.7
Seeking Employment		21.9	17.1	14.9	16.1	22.6	19.0	17.4	24.2	8.6	10.4	19.8	22.5	13.4
Employment Commitments After Doctorate		17,775	405	561	287	442	499	2,194	2,823	76	888	689	374	2,027
Primary Activity+														
R & D	%	30.5	59.3	63.8	50.9	36.7	68.3	56.8	69.3	32.9	34.7	29.3	52.4	36.1
Teaching		37.0	16.3	19.4	19.9	42.5	18.4	23.3	11.3	15.8	23.4	39.5	22.5	28.4
Administration		11.9	3.7	2.7	4.5	0.7	0.8	2.3	2.1	1.3	3.5	9.1	2.4	5.1
Prof. Services		13.2	9.6	6.4	13.9	10.9	7.4	9.1	10.9	17.1	13.2	16.4	13.4	14.5
Other		3.3	6.2	3.7	5.9	2.0	3.2	4.0	4.0	9.2	4.7	1.2	5.6	3.8
Secondary Activity														
R & D	%	33.5	27.9	24.1	32.1	45.2	26.9	30.7	23.6	15.8	27.9	38.9	29.4	31.5
Teaching		17.3	5.9	6.6	14.3	14.5	20.0	12.1	12.6	11.8	17.2	18.3	17.6	17.5
Administration		13.8	16.0	22.1	14.6	5.9	12.4	14.5	18.9	14.5	11.7	15.5	19.0	14.5
Prof. Services		12.5	12.1	11.2	16.0	9.0	10.4	11.4	15.8	6.6	8.6	13.5	12.6	10.9
Other		3.7	2.7	4.3	2.8	2.3	3.4	3.2	4.0	7.9	3.4	3.0	4.0	3.6
No Secondary Activity		15.3	30.6	27.8	15.3	16.1	25.1	23.7	22.7	19.7	10.8	6.5	13.9	10.3
Activity(ies) Unknown	%	4.0	4.7	3.9	4.9	7.0	1.8	4.3	2.3	23.7	20.4	4.2	3.5	11.9
Region of Employment After Doctorate+														
New England	%	6.5	9.6	8.4	5.9	9.7	8.4	8.6	7.0	6.6	7.3	4.4	2.1	5.3
Middle Atlantic		13.8	13.1	18.9	8.4	18.8	17.4	16.1	12.6	21.1	13.4	10.4	6.4	11.4
East No. Central		13.4	8.1	16.0	5.6	13.6	10.6	11.5	11.9	14.5	11.7	14.4	9.9	12.4
West No. Central		6.8	5.7	5.9	3.8	6.8	3.0	5.1	3.7	13.2	6.1	7.8	9.9	7.6
South Atlantic		15.5	12.8	12.1	16.0	16.3	12.8	13.8	12.0	11.8	15.1	19.4	12.0	15.9
East So. Central		4.6	3.7	6.1	1.7	3.6	1.6	3.6	2.8	5.3	3.7	5.5	5.1	4.6
West So. Central		8.3	4.9	6.8	17.1	4.3	6.4	7.2	8.6	5.3	6.3	9.4	7.8	7.6
Mountain		5.5	6.9	3.0	12.5	4.5	3.6	5.4	5.1	5.3	5.2	5.4	5.9	5.4
Pacific & Insular		13.9	27.7	15.3	13.2	10.2	24.6	18.4	21.7	10.5	15.2	11.8	9.1	12.7
U.S., Region Unknown		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.0
Foreign		10.2	6.4	6.6	13.6	10.2	9.8	8.9	12.9	2.6	12.5	10.9	29.4	14.7
Region Unknown		1.3	1.0	0.9	2.1	2.0	1.6	1.5	1.6	3.9	3.5	0.6	2.1	2.3

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See last page of report for a description of fields in this table. Physical Sciences includes Mathematics and Computer Sciences, as well as Physics/Astronomy, Chemistry, and Earth/Atmospheric/Marine Sciences. Refer also to the explanatory note for this table. Calculations in this table exclude 651 respondents with missing data for doctoral field.

*Includes 384 respondents not reporting sex. ★Includes 2-year, 4-year and foreign colleges and universities, medical schools, and elementary/secondary schools.

+Includes only recipients with definite employment plans.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-3a Statistical Profile of Doctorate Recipients by Major Field, 1997 (Total All Doctorates)

Psychology	Economics	Anthropology and Sociology	Political Sci./ International Rel.	Other Social Sciences	SOCIAL SCI. INCL. PSYCH.	TOTAL SCIENCES & ENGINEERING	History	Eng. and Amer. Lang. And Lit	Foreign Lang. and Lit	Other Humanities	HUMANITIES	EDUCATION	Business and Management	Other Professional Fields	Other Fields	PROFESSIONAL/ OTHER FIELDS	TOTAL NONSCIENCES
3,489	**1,011**	**1,001**	**738**	**678**	**6,917**	**27,756**	**954**	**1,080**	**653**	**2,700**	**5,387**	**6,497**	**1,221**	**1,081**	**112**	**2,414**	**14,298**
32.6	75.3	44.0	71.5	55.5	46.9	65.1	62.4	42.7	40.3	53.9	51.5	36.4	68.9	52.8	42.0	60.4	46.2
66.6	22.8	55.4	28.2	43.5	52.2	34.1	37.1	57.3	59.1	44.9	47.7	62.8	30.3	46.4	43.8	38.2	53.0
0.8	1.9	0.6	0.3	1.0	0.9	0.7	0.5	0.0	0.6	1.2	0.8	0.8	0.8	0.7	14.3	1.4	0.9
82.7	59.1	72.7	75.7	64.1	72.5	58.9	84.6	86.8	61.7	73.1	76.5	82.6	63.5	72.4	20.5	65.5	77.4
2.6	6.4	5.8	6.6	7.4	4.8	8.2	4.5	2.5	13.8	6.1	6.0	2.6	6.9	4.3	2.7	5.5	4.4
3.6	26.9	14.5	10.6	21.5	13.0	25.6	7.0	6.4	17.5	10.9	10.1	5.6	21.9	16.3	3.6	18.5	9.5
11.1	7.7	7.0	7.0	7.1	9.7	7.2	3.9	4.4	7.0	9.9	7.4	9.3	7.8	7.0	73.2	10.5	8.8
44.6	57.0	50.7	56.5	57.5	49.2	53.7	56.4	51.0	48.4	49.2	50.7	60.6	63.1	57.5	13.4	58.3	56.5
38.9	34.9	40.5	36.3	33.2	37.9	37.1	37.7	40.4	41.5	37.7	38.7	27.6	26.5	33.4	8.9	28.7	32.0
16.5	8.1	8.8	7.2	9.3	12.9	9.3	5.9	8.6	10.1	13.1	10.6	11.8	10.5	9.1	77.7	13.0	11.5
32.6	35.5	35.4	33.7	36.2	33.4	31.9	35.1	34.7	35.2	35.5	35.2	44.0	35.7	38.9	37.7	37.2	39.2
57.8	47.8	73.4	52.2	19.6	55.2	58.7	54.9	61.5	0.0	48.0	46.1	34.1	31.7	29.5	0.9	29.3	37.8
72.6	81.7	83.8	78.6	86.4	76.2	67.8	84.7	86.0	82.5	79.8	82.2	86.8	79.9	89.1	32.1	81.8	84.2
9.1	11.7	11.6	10.4	12.5	10.0	9.0	11.6	11.3	11.0	12.0	11.7	20.0	12.4	15.1	11.7	13.7	15.0
7.2	7.3	8.5	8.0	7.9	7.5	7.0	9.0	8.5	8.4	8.6	8.6	8.4	7.6	8.4	7.5	8.0	8.4
24.2	5.6	14.3	8.1	9.4	17.0	33.0	6.7	5.1	5.5	5.9	5.8	3.8	2.6	4.1	2.7	3.3	4.4
17.8	2.7	8.7	5.3	5.1	11.7	17.7	4.9	3.9	3.4	3.4	3.7	1.7	0.9	1.6	0.9	1.2	2.4
4.2	2.3	4.8	1.6	3.8	3.8	13.3	1.0	0.6	1.1	1.4	1.1	1.4	1.2	1.5	1.8	1.4	1.3
1.7	0.3	0.3	0.3	0.1	1.0	1.0	0.2	0.1	0.6	0.4	0.3	0.3	0.3	0.3	0.0	0.3	0.3
0.5	0.4	0.5	0.9	0.3	0.5	1.0	0.5	0.6	0.5	0.7	0.6	0.4	0.2	0.7	0.0	0.4	0.5
58.6	83.7	75.3	80.5	78.3	68.4	55.8	83.5	83.7	81.6	78.8	81.0	81.6	85.3	84.9	20.5	82.1	81.5
20.9	53.3	49.7	49.9	40.4	32.9	18.8	60.2	65.0	66.9	55.7	59.7	62.2	63.8	53.4	7.1	56.5	60.3
13.9	11.4	6.3	7.0	13.0	12.5	22.4	5.0	5.3	3.8	7.2	6.0	5.3	13.4	8.4	2.7	10.7	6.5
6.1	7.3	4.2	6.4	8.1	6.7	5.1	3.9	0.8	0.9	0.9	1.4	3.7	2.1	6.2	2.7	4.0	2.9
8.8	2.1	4.9	5.3	7.4	6.8	2.8	2.5	2.1	0.9	5.3	3.6	3.4	1.7	10.5	3.6	5.8	3.9
8.9	9.6	10.3	11.9	9.4	9.6	6.7	11.9	10.5	9.0	9.7	10.2	7.0	4.2	6.4	4.5	5.2	7.9
17.2	10.7	10.4	11.4	12.2	14.6	11.2	9.7	11.2	12.9	15.4	13.2	14.6	12.1	11.0	76.8	14.6	14.1
17.2	4.3	9.0	5.0	6.6	11.9	24.1	4.6	2.9	3.4	3.1	3.4	2.2	1.6	2.2	1.8	1.9	2.6
7.0	1.3	5.3	3.1	2.8	5.1	8.9	2.1	2.2	2.1	2.7	2.4	1.5	1.0	1.9	0.9	1.4	1.8
37.7	58.9	44.6	45.1	48.5	43.5	36.2	45.1	44.0	48.5	44.9	45.2	59.2	64.5	58.8	12.5	59.6	54.0
20.9	24.8	30.8	35.4	29.8	25.0	19.6	38.5	39.7	33.1	33.9	35.8	22.4	20.7	26.1	8.0	22.5	27.5
1,315	**1,122**	**446**	**333**	**329**	**3,008**	**10,052**	**430**	**475**	**317**	**1,213**	**2,435**	**3,847**	**788**	**636**	**14**	**1,438**	**7,720**
17.5	28.1	27.6	21.0	31.3	26.8	47.2	9.5	3.2	6.9	8.1	7.2	5.5	25.9	12.6	28.6	20.0	8.8
19.8	50.5	55.4	58.0	39.2	33.6	24.0	73.7	77.7	82.6	71.1	74.3	40.9	55.1	52.0	21.4	53.4	53.8
4.7	8.1	5.8	6.6	10.9	5.7	3.8	5.3	6.9	2.8	4.6	5.0	38.4	6.0	12.3	7.1	8.8	22.4
50.9	8.6	5.4	4.8	10.0	26.9	16.0	4.4	5.1	2.5	8.2	6.2	10.8	7.4	18.1	35.7	12.4	9.6
3.8	2.3	2.0	6.0	4.6	3.7	3.9	4.4	3.2	2.5	4.0	3.7	1.8	2.7	2.4	7.1	2.6	2.6
28.3	39.8	49.3	53.5	43.2	37.5	30.9	59.3	52.6	63.4	45.6	51.7	24.0	49.7	41.0	28.6	45.7	36.8
21.3	21.4	18.8	16.2	17.0	21.2	16.1	11.2	8.4	8.5	13.4	11.4	21.6	26.0	21.7	21.4	24.1	18.8
16.1	10.9	8.5	8.7	10.6	12.5	15.1	5.6	13.1	8.8	11.8	10.6	14.0	7.0	12.6	21.4	9.6	12.1
12.8	11.5	8.3	5.4	12.5	10.6	12.3	5.3	6.7	5.7	7.7	6.8	18.1	6.0	12.4	0.0	8.8	12.8
4.1	2.3	2.9	3.0	3.3	3.3	3.5	5.6	4.0	1.9	8.0	6.0	3.1	2.0	2.0	7.1	2.1	3.8
14.2	11.8	8.3	9.6	9.4	11.7	17.1	10.5	11.4	9.1	9.5	10.0	17.0	6.2	7.7	21.4	7.0	12.9
3.2	2.4	3.8	3.6	4.0	3.2	5.0	2.6	3.8	2.5	4.1	3.6	2.3	3.0	2.5	0.0	2.8	2.8
6.3	7.4	8.5	10.5	9.7	7.7	7.2	7.4	7.2	6.9	8.3	7.8	4.5	4.3	4.1	0.0	4.2	5.5
18.3	12.1	11.0	12.3	15.2	15.0	13.8	16.3	16.6	17.4	13.9	15.3	12.9	13.5	13.7	7.1	13.5	13.8
15.1	10.1	11.7	14.2	14.9	13.5	12.4	14.2	15.4	13.9	15.0	14.8	14.7	15.1	15.1	14.3	15.1	14.8
6.5	2.7	9.2	6.6	6.4	6.2	5.5	6.3	4.4	6.6	9.9	7.8	9.9	5.2	7.5	0.0	6.2	8.5
16.7	17.8	13.7	18.4	16.4	16.6	14.6	17.4	18.9	13.9	12.4	14.7	18.5	15.8	15.9	7.1	15.7	16.8
4.3	2.1	4.0	4.5	1.2	3.5	3.6	2.6	4.8	5.0	4.2	4.1	7.0	6.5	5.7	0.0	6.1	5.9
8.7	3.4	5.8	5.7	6.1	6.7	7.5	7.0	8.8	8.5	8.1	8.1	9.3	10.9	11.3	14.3	11.1	9.3
5.5	3.1	8.1	3.0	5.2	5.1	5.2	5.3	4.4	6.9	5.5	5.5	6.7	4.3	4.6	14.3	4.5	5.9
14.1	8.2	13.2	12.7	10.0	12.2	16.3	15.8	12.2	10.4	11.1	12.0	10.6	10.5	7.7	21.4	9.4	10.8
0.2	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1
3.0	32.8	13.5	11.7	14.0	12.5	12.3	7.2	6.7	9.8	10.1	8.9	4.7	12.7	13.7	0.0	13.0	7.5
1.4	0.3	1.3	0.3	0.9	1.0	1.5	0.5	0.4	0.6	1.4	0.9	1.2	1.0	0.8	21.4	1.1	1.1

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-3b Statistical Profile of Doctorate Recipients by Major Field, 1997 (Men)

		1997 Total	Physics and Astronomy	Chemistry	Earth, Atmos and Marine Sci	Mathematics	Computer Sciences	PHYSICAL SCIENCES	ENGINEERING	Biochemistry	Other Biosciences	Health Sciences	Agricultural Sciences	LIFE SCIENCES
Total Men		**24,999**	**1,345**	**1,500**	**668**	**845**	**733**	**5,088**	**5,264**	**454**	**2,766**	**462**	**805**	**4,487**
Men as a Percent of Total Doctorates	%	58.5	85.3	70.9	75.4	76.0	82.5	77.4	87.0	55.3	56.5	33.1	73.0	54.6
U.S. Citizenship	%	59.2	56.5	58.2	58.2	44.5	45.8	53.7	43.1	59.5	62.7	53.9	46.7	58.6
Non-U.S., Permanent Visa		7.3	9.2	8.3	7.7	7.8	9.8	8.6	9.4	10.6	9.0	7.4	8.8	9.0
Non-U.S., Temporary Visa		25.8	29.2	28.1	26.9	41.1	37.9	31.8	41.8	24.7	22.9	27.5	37.9	26.2
Unknown		7.7	5.1	5.4	7.2	6.6	6.4	5.9	5.7	5.3	5.4	11.3	6.6	6.2
Married	%	57.0	48.0	53.4	60.0	49.9	56.3	52.7	57.9	58.8	57.4	61.9	68.3	60.0
Not Married		33.2	44.5	38.9	32.6	42.5	35.1	39.6	35.5	34.1	35.2	26.6	23.7	32.2
Unknown		9.8	7.5	7.7	7.4	7.6	8.6	7.7	6.6	7.0	7.4	11.5	8.0	7.9
Median Age at Doct.	Yrs	33.0	30.3	29.8	33.3	31.3	31.9	30.9	31.6	30.5	31.8	34.3	34.5	32.3
Percent with Bacc. In Same Field as Doctorate	%	53.8	65.9	73.2	51.3	65.9	37.9	62.1	77.1	24.9	48.7	30.3	52.9	45.2
Percent with Masters	%	72.5	62.8	41.0	76.2	73.1	83.5	62.8	83.5	32.4	46.9	71.0	88.7	55.4
Median Time Lapse from Bacc. To Doct.														
Total Time	Yrs	10.0	7.6	7.0	10.7	8.6	9.6	8.1	8.9	7.9	8.8	11.0	11.0	9.0
Registered Time		7.2	6.9	6.0	7.5	7.0	7.3	6.8	6.6	6.8	7.0	7.0	6.8	7.0
Postdoctoral Study Plans	%	24.9	49.1	51.1	40.0	26.5	13.4	39.6	19.7	74.0	62.2	24.2	30.7	53.8
Fellowship		12.2	21.3	23.5	15.9	12.2	4.6	17.3	6.0	45.8	38.3	11.9	9.8	31.2
Research Assoc.		11.0	26.6	26.6	22.9	11.5	7.9	20.9	12.7	22.7	18.3	10.4	19.8	18.2
Traineeship		0.8	0.7	0.4	0.9	1.8	0.7	0.8	0.8	0.9	2.1	0.9	0.7	1.6
Other Study		0.9	0.5	0.6	0.3	1.1	0.1	0.6	0.3	4.6	2.5	1.1	0.4	2.8
Planned Employment After Doctorate	%	63.0	42.5	39.7	50.4	63.0	76.9	51.1	71.0	18.5	29.4	61.5	56.5	36.4
Educ. Institution ★		28.2	7.4	7.1	15.2	31.0	19.5	14.0	10.9	5.7	10.9	24.7	20.1	13.5
Industry/Business		21.2	25.4	27.1	16.8	21.2	48.7	27.4	48.2	7.7	6.6	18.2	19.4	10.2
Government		5.0	3.9	1.5	9.8	2.7	4.5	3.8	6.7	1.1	3.3	9.3	8.2	4.5
Nonprofit		2.7	0.9	0.7	1.5	1.1	1.0	1.0	1.3	0.2	1.3	3.9	1.9	1.6
Other & Unknown		5.9	5.1	3.3	7.1	7.0	3.3	4.9	4.0	[illegible].7	7.3	5.4	7.0	6.7
Postdoc. Plans Unknown	%	12.1	8.3	9.1	9.6	10.5	9.7	9.3	9.2	7.5	8.5	14.3	12.8	9.7
Definite Postdoc. Study	%	18.1	38.1	40.6	27.2	18.2	9.5	30.0	12.2	58.8	48.8	17.1	18.3	41.1
Seeking Postdoc. Study		6.9	11.1	10.5	12.8	8.3	3.8	9.6	7.6	15.2	13.3	7.1	12.4	12.7
Definite Employment		41.5	25.4	26.1	34.0	39.4	57.3	33.6	46.9	10.4	20.1	40.5	35.0	23.9
Seeking Employment		21.4	17.2	13.6	16.4	23.6	19.6	17.4	24.1	8.1	9.2	21.0	21.5	12.5
Employment Commitments After Doctorate		**10,383**	**341**	**392**	**226**	**333**	**420**	**1,712**	**2,469**	**47**	**557**	**187**	**282**	**1,073**
Primary Activity+														
R & D	%	38.8	60.7	65.8	55.8	38.7	71.7	59.6	69.9	38.3	37.0	39.0	52.5	41.5
Teaching		31.3	15.0	16.3	15.9	38.1	15.5	20.0	10.6	12.8	20.1	24.1	22.0	21.0
Administration		9.8	3.2	3.6	4.0	0.3	0.7	2.2	2.2	2.1	3.2	9.6	1.8	3.9
Prof. Services		12.2	9.7	6.4	14.2	12.3	7.4	9.5	10.9	17.0	14.4	18.7	14.9	15.4
Other		3.6	6.7	3.8	4.9	2.1	3.1	4.0	4.2	8.5	3.9	1.6	5.0	4.0
Secondary Activity														
R & D	%	31.6	27.0	23.0	28.3	41.1	24.8	28.4	22.8	19.1	26.9	32.6	30.5	28.5
Teaching		17.7	5.6	7.1	13.7	16.8	19.8	12.7	12.6	10.6	17.1	21.9	17.4	17.7
Administration		15.0	17.3	23.5	17.7	6.3	13.1	15.6	20.0	17.0	12.7	19.3	19.9	15.9
Prof. Services		12.5	12.9	13.0	16.8	9.3	11.0	12.3	16.3	10.6	8.1	11.2	12.8	10.0
Other		3.6	2.6	4.8	3.1	2.4	3.8	3.4	3.9	10.6	3.6	2.1	2.8	3.4
No Secondary Activity		15.4	30.2	24.5	15.0	15.9	26.0	23.1	22.2	10.6	10.2	6.4	13.1	10.3
Activity(ies) Unknown	%													
Region of Employment After Doctorate+														
New England	%	6.5	9.1	9.2	5.8	8.7	7.9	8.3	7.0	8.5	7.9	4.3	1.1	5.5
Middle Atlantic		13.1	12.6	17.1	8.0	18.9	16.4	15.2	12.2	23.4	12.7	11.2	6.0	11.2
East No. Central		12.7	8.2	16.6	4.9	13.2	11.2	11.4	12.2	8.5	11.8	10.2	9.9	10.9
West No. Central		6.1	5.0	4.8	2.7	6.6	3.1	4.5	3.5	12.8	5.6	8.0	10.6	7.6
South Atlantic		14.0	13.2	11.5	13.7	15.3	12.6	13.1	11.6	12.8	13.8	20.3	10.6	14.1
East So. Central		4.2	3.5	5.6	2.2	3.3	1.7	3.3	2.6	6.4	4.5	7.0	3.9	4.8
West So. Central		8.5	5.3	7.4	18.6	3.9	6.2	7.5	8.8	6.4	6.3	12.3	8.5	7.9
Mountain		5.3	7.6	3.3	13.7	4.5	3.6	5.8	5.0	2.1	4.1	3.2	6.4	4.5
Pacific & Insular		15.0	28.4	16.6	12.8	11.4	26.4	19.9	21.8	12.8	15.3	10.2	8.9	12.6
U.S., Region Unknown		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.4	0.1
Foreign		13.0	5.9	7.1	15.5	12.3	9.5	9.6	13.8	2.1	13.8	12.8	31.2	17.7
Region Unknown		1.5	1.2	0.8	2.2	1.8	1.4	1.4	1.4	4.3	4.1	0.5	2.5	3.1

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See last page of report for a description of fields in this table. Physical Sciences includes Mathematics and Computer Sciences, as well as Physics/Astronomy, Chemistry, and Earth/Atmospheric/Marine Sciences. Refer also to the explanatory note for this table. Calculations in this table exclude 366 male respondents with missing data for doctoral field.

★Includes 2-year, 4-year and foreign colleges and universities, medical schools, and elementary/secondary schools.

+Includes only recipients with definite employment plans.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-3b Statistical Profile of Doctorate Recipients by Major Field, 1997 (Men)

Psychology	Economics	Anthropology and Sociology	Political Sci./ International Rel.	Other Social Sciences	SOCIAL SCI. INCL. PSYCH.	TOTAL SCIENCE & ENGINEERING	History	Engl. And Amer. Lang. and Lit.	Foreign Lang. and Lit.	Other Humanities	HUMANITIES	EDUCATION	Business and Management	Other Professional Fields	Other Fields	PROFIONAL/ OTHER FIELDS	TOTAL NONSCIENCES
1,136	**761**	**440**	**528**	**376**	**3,241**	**18,080**	**595**	**461**	**263**	**1,455**	**2,774**	**2,367**	**841**	**571**	**47**	**1,459**	**6,600**
32.6	75.3	44.0	71.5	55.3	46.9	65.1	62.4	42.7	40.3	53.9	51.5	36.4	68.9	52.8	42.0	60.4	46.2
83.1	40.1	66.4	73.9	57.4	66.2	54.1	86.9	84.4	62.7	72.5	76.6	79.9	57.0	68.3	19.1	60.2	74.2
2.4	7.1	7.5	6.3	7.4	5.4	8.3	3.7	2.2	11.8	5.8	5.3	3.2	7.6	4.4	6.4	6.3	4.8
4.8	42.2	19.1	13.1	28.2	19.6	31.1	6.6	8.5	19.4	11.6	10.7	7.6	27.7	20.0	2.1	23.9	12.5
9.7	10.6	7.0	6.8	6.9	8.8	6.4	2.9	5.0	6.1	10.0	7.3	9.4	7.7	7.4	72.3	9.7	8.6
47.9	54.8	57.5	57.0	64.6	54.2	56.3	60.2	52.7	51.0	53.0	54.3	69.5	64.3	64.4	21.3	63.0	61.7
36.8	36.0	34.3	36.2	28.5	35.2	35.8	35.3	38.0	40.7	35.2	36.2	19.3	25.2	26.6	6.4	25.2	27.7
15.3	9.2	8.2	6.8	6.9	10.6	7.9	4.5	9.3	8.4	11.8	9.5	11.2	10.5	8.9	72.3	11.9	10.6
32.7	32.1	35.2	33.8	36.4	33.6	31.9	35.1	34.1	35.1	35.5	35.2	43.5	35.5	38.5	33.7	36.9	38.1
59.1	54.7	72.0	52.5	21.8	54.4	60.9	57.3	63.1	0.0	48.9	48.4	28.1	31.0	30.5	2.1	29.9	37.0
71.6	74.0	81.8	78.8	88.8	76.7	69.5	85.9	85.5	85.2	79.4	82.3	87.2	80.0	88.4	44.7	82.2	84.0
9.0	9.2	11.1	10.7	12.8	10.0	9.0	11.3	10.5	10.7	11.7	11.3	19.3	12.3	15.0	11.0	13.4	14.0
7.0	6.9	8.2	8.0	7.9	7.5	7.0	8.8	8.0	8.1	8.6	8.5	8.6	7.7	8.8	7.5	8.0	8.4
22.6	6.6	16.4	8.1	10.1	14.2	32.8	6.2	5.0	6.1	5.8	5.8	4.2	2.4	3.9	6.4	3.1	4.6
15.8	2.9	9.3	5.3	5.6	9.0	16.0	4.5	4.3	3.4	3.4	3.8	1.9	0.7	1.4	2.1	1.0	2.5
4.4	2.9	6.1	1.7	4.0	3.8	14.8	1.0	0.2	1.5	1.3	1.1	1.4	1.1	1.6	4.3	1.4	1.2
1.8	0.3	0.5	0.4	0.3	0.8	1.0	0.2	0.0	0.8	0.3	0.3	0.5	0.5	0.2	0.0	0.3	0.4
0.6	0.5	0.5	0.8	0.3	0.6	1.0	0.5	0.4	0.4	0.8	0.6	0.4	0.1	0.7	0.0	0.3	0.5
61.5	80.8	73.2	79.7	78.7	72.6	57.1	85.0	84.6	82.9	79.6	81.9	81.8	85.1	84.8	21.3	82.9	82.1
21.7	41.8	49.1	47.7	42.0	36.7	17.0	60.3	65.9	71.5	56.5	60.3	62.6	62.2	49.2	8.5	55.4	60.0
16.3	17.1	6.8	8.0	12.0	13.3	26.7	4.5	5.6	3.8	6.9	5.9	5.6	15.1	8.1	2.1	11.9	7.1
8.2	12.0	5.0	7.8	10.1	8.8	5.7	4.9	0.9	1.5	1.0	1.8	4.6	2.6	7.7	4.3	4.7	3.4
8.5	1.3	5.7	4.7	5.6	5.5	2.0	3.2	2.8	0.8	6.9	4.9	3.7	1.2	14.0	4.3	6.3	4.8
6.8	8.7	6.6	11.6	9.0	8.2	5.7	12.1	9.3	5.3	8.3	9.0	5.4	4.0	5.8	2.1	4.7	6.7
15.8	12.6	10.5	12.1	11.2	13.2	10.1	8.7	10.4	11.0	14.6	12.3	14.0	12.5	11.4	72.3	14.0	13.3
16.4	5.5	9.8	4.9	6.4	9.9	24.0	4.7	2.6	4.2	3.8	3.8	2.3	1.3	2.1	4.3	1.7	2.8
6.3	1.1	6.6	3.2	3.7	4.3	8.8	1.5	2.4	1.9	2.0	1.9	1.9	1.1	1.8	2.1	1.4	1.8
41.0	58.3	44.3	43.4	48.9	46.8	37.5	45.4	43.8	53.6	46.5	46.5	60.8	63.6	59.7	14.9	60.5	54.7
20.5	22.5	28.9	36.4	29.8	25.8	19.7	39.7	40.8	29.3	33.1	35.4	21.0	21.5	25.0	6.4	22.4	27.4
466	**444**	**195**	**229**	**184**	**1,518**	**6,772**	**270**	**202**	**141**	**677**	**1,290**	**1,438**	**535**	**341**	**7**	**883**	**3,611**
18.5	48.6	31.8	21.0	34.2	31.3	54.1	9.6	3.5	9.2	8.3	7.9	5.1	26.4	12.0	28.6	20.8	10.0
20.2	29.1	51.8	55.9	37.5	34.3	19.9	70.4	76.7	80.1	68.4	71.4	36.6	54.6	46.9	14.3	51.3	52.6
5.4	5.6	6.2	7.4	12.5	6.7	3.5	6.3	5.9	2.8	4.6	5.0	44.5	6.0	13.8	14.3	9.1	21.7
48.5	12.2	6.2	5.2	9.8	21.2	13.6	5.9	7.4	2.8	10.9	8.4	8.6	8.0	20.2	42.9	13.0	9.6
3.4	2.7	1.5	6.1	2.2	3.2	3.9	4.4	2.5	3.5	3.5	3.6	2.5	2.2	3.8	0.0	2.8	3.0
26.6	35.8	47.2	51.1	41.8	37.5	28.4	55.9	55.9	56.7	42.8	49.1	22.7	49.9	36.7	28.6	44.6	37.5
24.2	30.9	23.1	16.6	19.0	24.2	16.1	11.9	8.9	9.2	16.0	13.3	24.9	25.8	24.0	28.6	25.1	20.8
17.2	11.9	9.2	9.2	8.2	12.3	16.5	6.3	11.4	9.9	11.5	10.2	14.8	7.3	15.2	28.6	10.5	12.1
15.5	8.6	9.2	5.7	13.0	10.9	13.1	6.3	6.9	9.2	8.4	7.8	16.6	6.5	11.7	0.0	8.5	11.5
2.4	2.0	2.6	3.5	2.7	2.5	3.4	6.3	3.5	2.8	8.4	6.6	2.6	1.5	2.1	0.0	1.7	3.8
10.1	9.0	6.2	9.6	11.4	9.4	17.6	10.0	9.9	10.6	8.6	9.3	15.9	6.2	7.3	14.3	6.7	11.3
4.7	6.8	8.2	9.6	8.2	6.9	7.1	7.0	7.4	7.1	8.0	7.6	4.0	3.9	5.0	0.0	4.3	5.4
15.5	11.9	11.8	13.2	11.4	13.1	13.0	17.0	13.9	14.9	13.0	14.2	12.4	13.1	12.6	14.3	12.9	13.2
17.0	10.6	8.7	14.9	16.3	13.6	12.1	14.4	10.4	14.9	15.2	14.3	14.0	13.9	12.3	14.3	13.3	13.9
6.0	2.3	9.7	6.6	6.5	5.5	4.9	6.7	5.0	6.4	10.4	8.3	10.4	3.7	7.0	0.0	5.0	8.3
16.1	16.2	12.3	17.1	15.2	15.7	13.3	17.0	23.3	10.6	11.2	14.3	16.6	15.2	15.0	0.0	15.0	15.4
5.2	2.3	3.6	5.3	0.5	3.6	3.3	3.0	5.0	5.0	4.3	4.2	6.8	7.3	6.5	0.0	6.9	5.9
10.5	2.9	5.1	5.3	7.6	6.5	7.8	7.4	8.4	10.6	8.7	8.6	9.1	12.2	13.5	14.3	12.7	9.8
4.7	2.7	6.2	3.5	3.8	4.0	4.9	5.6	5.4	8.5	5.9	6.1	7.7	3.6	3.2	14.3	3.5	6.1
13.3	8.3	13.3	11.0	8.7	10.9	17.4	13.0	10.4	12.1	10.1	10.9	10.5	11.2	5.6	42.9	9.3	10.4
0.4	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.1	0.1
4.9	35.6	19.0	13.2	20.7	18.9	14.5	8.1	9.9	8.5	11.2	10.1	7.0	14.6	18.5	0.0	16.0	10.3
1.7	0.5	2.1	0.4	1.1	1.1	1.6	0.7	1.0	1.4	1.8	1.4	1.5	1.1	0.9	0.0	1.0	1.3

SOURCE: NSF/NIH/NEH/USED/USDA, Survev of Earned Doctorates

APPENDIX TABLE A-3c Statistical Profile of Doctorate Recipients by Major Field, 1997 (Women)

		1997 Total	Physics and Astronomy	Chemistry	Earth, Atmos. and Marine Sci.	Mathematics	Computer Sciences	PHYSICAL SCIENCES	ENGINEERING	Biochemistry	Other Biosciences	Health Sciences	Agricultural Sciences	LIFE SCIENCES
Total Women		17,322	220	605	212	260	144	1,441	747	360	2,103	916	290	3,669
Women as a Percent of Total Doctorates	%	40.6	14.0	28.6	24.0	23.4	16.2	21.9	12.3	43.8	43.0	65.7	26.3	44.7
U.S. Citizenship	%	74.2	52.3	57.5	67.5	53.1	56.3	57.3	54.9	62.2	66.2	75.1	52.8	67.0
Non-U.S., Permanent Visa		6.3	15.0	13.1	9.0	13.1	11.8	12.6	13.3	11.7	11.2	3.9	9.3	9.3
Non-U.S., Temporary Visa		11.6	27.3	22.8	16.0	27.3	25.0	23.5	26.8	21.7	18.6	13.6	29.7	18.5
Unknown		7.9	5.5	6.6	7.5	6.5	6.9	6.6	5.1	4.4	3.9	7.3	8.3	5.2
Married	%	50.4	55.9	50.4	47.2	51.5	49.3	50.9	54.8	47.5	51.8	57.4	48.3	52.5
Not Married		37.9	36.8	40.5	41.0	39.2	39.6	39.7	39.2	45.8	42.2	32.8	41.4	40.1
Unknown		11.7	7.3	9.1	11.8	9.2	11.1	9.4	6.0	6.7	6.0	9.8	10.3	7.4
Median Age at Doct.	Yrs	34.8	29.9	29.1	32.6	31.2	32.7	30.5	30.1	29.9	30.9	41.6	33.3	32.2
Percent with Bacc. In Same Field as Doctorate	%	47.6	66.4	72.9	38.7	63.1	36.1	61.4	70.5	22.5	53.3	54.0	41.7	49.6
Percent with Masters	%	73.4	65.9	40.5	72.2	77.3	77.8	59.4	80.9	26.9	42.7	82.1	83.1	54.2
Median Time Lapse from Bacc. To Doct.														
Total Time	Yrs	11.5	7.6	6.6	10.0	8.6	10.2	7.9	7.8	7.3	8.2	17.0	10.0	9.5
Registered Time		7.6	6.6	5.8	7.9	6.6	8.2	6.6	6.3	6.3	6.8	8.1	6.9	7.0
Postdoctoral Study Plans	%	20.5	44.5	43.6	43.9	25.0	15.3	37.6	19.0	74.7	64.0	13.3	29.7	49.7
Fellowship		12.6	20.5	19.8	21.7	12.7	8.3	17.8	7.4	49.2	42.0	9.2	11.4	32.1
Research Assoc.		6.5	22.7	22.5	21.7	11.5	6.3	18.8	10.3	20.0	18.7	3.2	17.6	14.9
Traineeship		0.6	1.4	0.3	0.0	0.8	0.7	0.6	0.7	0.8	1.1	0.5	0.3	0.9
Other Study		0.8	0.0	1.0	0.5	0.0	0.0	0.5	0.7	4.7	2.2	0.4	0.3	1.9
Planned Employment After Doctorate	%	65.7	45.9	46.3	44.3	61.9	72.2	51.4	73.1	17.5	27.7	74.3	56.9	40.7
Educ. Institution ★		39.3	12.3	12.2	17.0	35.8	34.7	19.4	15.0	5.8	10.5	40.9	20.0	18.4
Industry/Business		10.6	24.5	26.3	9.0	16.2	32.6	22.3	44.7	5.3	5.7	11.5	17.9	8.0
Government		3.3	3.6	1.7	8.0	1.2	0.0	2.6	5.0	0.8	2.1	7.4	5.9	3.6
Nonprofit		3.8	0.5	0.5	2.8	1.2	1.4	1.0	1.1	0.0	1.5	6.7	2.4	2.7
Other & Unknown		8.7	5.0	5.6	7.5	7.7	3.5	6.0	7.4	5.6	7.9	7.9	10.7	7.9
Postdoc. Plans Unknown	%	13.7	9.5	10.1	11.8	13.1	12.5	11.0	7.9	7.8	8.3	12.3	13.4	9.6
Definite Postdoc. Study	%	14.7	31.8	32.1	31.1	17.7	10.4	27.1	13.0	53.9	48.8	9.5	19.0	37.1
Seeking Postdoc. Study		5.9	12.7	11.6	12.7	7.3	4.9	10.5	6.0	20.8	15.2	3.8	10.7	12.6
Definite Employment		42.7	29.1	27.9	28.8	41.9	54.9	33.4	47.3	8.1	15.7	54.8	31.7	26.0
Seeking Employment		23.1	16.8	18.3	15.6	20.0	17.4	17.9	25.8	9.4	12.0	19.5	25.2	14.7
Employment Commitments After Doctorate		7,390	64	169	61	109	79	482	353	29	331	502	92	954
Primary Activity+														
R & D	%	18.8	51.6	59.2	32.8	30.3	50.6	46.9	65.4	24.1	30.8	25.7	52.2	30.0
Teaching		44.9	23.4	26.6	34.4	56.0	34.2	35.1	16.1	20.7	29.0	45.2	23.9	36.8
Administration		14.8	6.3	0.6	6.6	1.8	1.3	2.5	1.1	0.0	3.9	9.0	4.3	6.5
Prof. Services		14.7	9.4	6.5	13.1	6.4	7.6	7.9	11.0	17.2	11.2	15.5	8.7	13.4
Other		2.9	3.1	3.6	9.8	1.8	3.8	3.9	2.5	10.3	6.0	1.0	7.6	3.7
Secondary Activity														
R & D	%	36.1	32.8	26.6	45.9	57.8	38.0	38.8	29.2	10.3	29.6	41.2	26.1	34.8
Teaching		16.7	7.8	5.3	16.4	7.3	21.5	10.2	12.7	13.8	17.5	16.9	18.5	17.2
Administration		12.1	9.4	18.9	3.3	4.6	8.9	10.8	11.6	10.3	10.0	14.1	16.3	12.8
Prof. Services		12.5	7.8	7.1	13.1	8.3	7.6	8.3	12.5	0.0	9.4	14.3	12.0	11.9
Other		3.8	3.1	3.0	1.6	1.8	1.3	2.3	4.5	3.4	3.0	3.4	7.6	3.7
No Secondary Activity		15.1	32.8	35.5	16.4	16.5	20.3	25.9	26.1	34.5	11.8	6.6	16.3	10.2
Activity(ies) Unknown	%	3.7	6.3	3.6	3.3	3.7	2.5	3.7	3.4	27.6	18.7	3.4	3.3	9.4
Region of Employment After Doctorate+														
New England	%	6.4	12.5	6.5	6.6	12.8	11.4	9.5	7.1	3.4	6.3	4.4	5.4	5.1
Middle Atlantic		14.9	15.6	23.1	9.8	18.3	22.8	19.3	15.6	17.2	14.5	10.2	7.6	11.6
East No. Central		14.4	7.8	14.8	8.2	14.7	7.6	11.8	9.6	24.1	11.5	15.9	9.8	14.0
West No. Central		7.9	9.4	8.3	8.2	7.3	2.5	7.3	5.1	13.8	6.9	7.8	7.6	7.7
South Atlantic		17.7	10.9	13.6	24.6	19.3	13.9	16.0	15.0	10.3	17.2	19.1	16.3	17.9
East So. Central		5.1	4.7	7.1	0.0	4.6	1.3	4.4	4.8	3.4	2.4	5.0	8.7	4.4
West So. Central		8.0	3.1	5.3	11.5	5.5	7.6	6.2	7.6	3.4	6.3	8.4	5.4	7.2
Mountain		5.8	3.1	2.4	8.2	4.6	3.8	3.9	5.4	10.3	6.9	6.2	4.3	6.4
Pacific & Insular		12.5	23.4	12.4	14.8	6.4	15.2	13.3	20.4	6.9	15.1	12.4	9.8	12.9
U.S., Region Unknown		0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Foreign		6.3	9.4	5.3	6.6	3.7	11.4	6.6	7.1	3.4	10.3	10.2	23.9	11.3
Region Unknown		1.1	0.0	1.2	1.6	2.8	2.5	1.7	2.3	3.4	2.4	0.6	1.1	1.4

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates. See last page of report for a description of fields in this table. Physical Sciences includes Mathematics and Computer Sciences, as well as Physics/Astronomy, Chemistry, and Earth/Atmospheric/Marine Sciences. Refer also to the explanatory note for this table. Calculations in this table exclude 329 female respondents with missing data for doctoral field.

★ Includes 2-year, 4-year and foreign colleges and universities, medical schools, and elementary/secondary schools.

+ Includes only recipients with definite employment plans.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-3c Statistical Profile of Doctorate Recipients by Major Field, 1997 (Women)

Psychology	Economics	Anthropology & Sociology	Political Sci./ Internat'l Rel.	Other Social Sciences	SOCIAL SCI INCL. PSYCH	TOTAL SCIENCES & ENGINEERING	History	English & Amer. Lang. & Lit.	Foreign Lang. & Lit.	Other Humanities	HUMANITIES	EDUCATION	Business & Management	Other Professional Fields	Other Fields	PROFESSIONAL/ OTHER FIELDS	TOTAL NONSCIENCES
2,324	**231**	**555**	**208**	**295**	**3,613**	**9,470**	**354**	**619**	**386**	**1,213**	**2,572**	**4,079**	**370**	**502**	**49**	**921**	**7,572**
66.6	22.8	55.4	28.2	43.5	52.2	34.1	37.1	57.3	59.1	44.9	47.7	62.8	30.3	46.4	43.8	38.2	53.0
83.6	73.1	78.6	81.3	73.9	79.4	69.3	81.9	88.5	61.7	75.6	77.5	85.1	80.0	78.1	26.5	76.1	81.4
2.7	6.7	4.5	7.7	7.5	4.4	8.2	5.9	2.7	15.3	6.6	6.9	2.2	5.4	4.2	0.0	4.5	4.1
3.1	16.0	11.0	4.3	13.2	7.2	15.6	7.6	4.8	16.3	10.3	9.5	4.6	9.2	12.4	6.1	10.7	7.0
10.6	4.3	5.9	6.7	5.4	9.0	6.9	4.5	3.9	6.7	7.5	6.1	8.1	5.4	5.4	67.3	8.7	7.5
43.5	55.4	45.9	55.8	49.8	45.6	49.8	50.8	49.8	47.2	45.9	47.7	56.2	61.9	50.6	10.2	53.0	52.9
40.4	38.9	45.8	37.0	40.0	41.0	40.3	42.4	42.2	42.5	41.7	42.0	32.7	30.0	41.6	14.3	35.5	36.2
16.1	5.7	8.3	7.2	10.2	13.4	9.9	6.8	8.1	10.4	12.4	10.3	11.0	8.1	7.8	75.5	11.5	10.8
32.5	38.3	35.6	33.4	35.6	33.3	32.0	35.1	35.2	35.2	35.5	35.3	44.4	36.3	39.7	40.9	37.8	40.5
58.0	46.9	75.0	51.9	16.9	56.8	55.8	51.7	60.3	0.0	48.1	44.3	38.0	34.1	28.9	0.0	29.4	39.1
73.9	86.7	85.6	78.8	84.7	76.7	65.7	83.3	86.4	81.1	81.8	83.0	87.4	81.4	90.4	28.6	83.5	85.4
9.1	14.3	11.8	10.0	12.2	10.0	9.2	12.0	12.0	11.4	12.0	12.0	20.3	12.7	15.5	16.5	14.0	16.0
7.3	7.7	8.8	7.8	7.7	7.5	7.0	9.1	8.8	8.6	8.8	8.9	8.3	7.3	8.0	7.4	7.7	8.4
25.3	4.0	12.8	8.2	8.8	19.8	34.0	7.6	5.2	5.2	6.1	5.9	3.6	3.2	4.4	0.0	3.7	4.4
18.9	2.1	8.3	5.3	4.7	14.3	21.2	5.6	3.6	3.4	3.5	3.8	1.6	1.4	1.8	0.0	1.5	2.3
4.2	1.8	3.8	1.4	3.7	3.8	10.9	1.1	0.8	0.8	1.5	1.2	1.4	1.6	1.4	0.0	1.4	1.3
1.8	0.0	0.2	0.0	0.0	1.2	0.9	0.3	0.2	0.5	0.4	0.3	0.2	0.0	0.4	0.0	0.2	0.2
0.4	0.1	0.5	1.4	0.3	0.5	1.0	0.6	0.6	0.5	0.7	0.7	0.4	0.3	0.8	0.0	0.5	0.5
57.9	88.0	77.8	83.2	79.7	65.9	54.5	82.2	83.0	81.6	79.9	81.2	82.5	87.8	86.3	26.5	83.7	82.2
20.8	59.8	50.6	55.8	39.3	29.9	22.7	60.7	64.3	64.5	56.1	60.0	62.7	69.2	58.8	8.2	60.3	61.5
12.9	9.1	5.9	4.8	14.6	12.0	14.6	5.9	5.0	3.9	7.7	6.3	5.2	10.0	9.0	4.1	9.1	6.0
5.1	4.4	3.6	2.9	5.8	5.0	4.1	2.3	0.8	0.5	0.9	1.0	3.3	1.1	4.6	2.0	3.0	2.5
9.1	3.4	4.3	6.7	9.8	8.1	4.4	1.4	1.6	1.0	3.4	2.3	3.2	3.0	6.8	4.1	5.1	3.2
10.0	11.3	13.3	13.0	10.2	11.0	8.7	11.9	11.3	11.7	11.7	11.6	8.1	4.6	7.2	8.2	6.2	9.0
16.8	8.0	9.4	8.7	11.5	14.3	11.5	10.2	11.8	13.2	14.0	12.8	13.9	8.9	9.4	73.5	12.6	13.4
17.8	2.8	8.5	5.3	7.1	13.8	24.8	4.5	3.1	2.8	2.5	3.0	2.3	2.4	2.4	0.0	2.3	2.5
7.5	1.2	4.3	2.9	1.7	6.0	9.2	3.1	2.1	2.3	3.6	3.0	1.3	0.8	2.0	0.0	1.4	1.9
36.5	60.7	45.2	50.0	49.2	41.2	34.6	45.2	44.1	45.6	44.2	44.5	59.1	68.4	58.6	14.3	60.2	54.3
21.3	27.3	32.6	33.2	30.5	24.7	19.9	37.0	38.9	36.0	35.7	36.7	23.5	19.5	27.7	12.2	23.6	28.0
849	**471**	**251**	**104**	**145**	**1,490**	**3,279**	**160**	**273**	**176**	**536**	**1,145**	**2,409**	**253**	**294**	**7**	**554**	**4,108**
17.0	17.8	24.3	21.2	27.6	22.3	32.8	9.4	2.9	5.1	7.8	6.5	5.7	24.9	13.3	28.6	18.8	7.7
19.7	62.0	58.2	62.5	41.4	32.8	32.5	79.4	78.4	84.7	74.4	77.6	43.5	56.1	57.8	28.6	56.7	54.8
4.4	7.9	5.6	4.8	9.0	4.7	4.5	3.8	7.7	2.8	4.7	5.0	34.8	5.9	10.5	0.0	8.3	22.9
52.2	7.6	4.8	3.8	10.3	32.7	21.1	1.9	3.3	2.3	4.7	3.6	12.1	5.9	15.6	28.6	11.4	9.6
4.0	2.1	2.4	5.8	7.6	4.2	3.8	4.4	3.7	1.7	4.5	3.8	1.5	3.6	0.7	14.3	2.2	2.2
29.2	41.8	51.0	58.7	44.8	37.4	36.0	65.0	50.2	68.8	49.1	54.6	24.8	49.4	45.9	28.6	47.3	36.1
19.7	14.9	15.5	15.4	14.5	18.1	16.1	10.0	8.1	8.0	10.1	9.3	19.6	26.5	19.0	14.3	22.4	17.1
15.5	10.4	8.0	7.7	13.8	12.6	12.3	4.4	14.3	8.0	12.1	10.9	13.4	6.3	9.5	14.3	8.1	12.0
11.3	12.5	7.6	4.8	11.7	10.4	10.8	3.8	6.6	2.8	6.7	5.7	19.0	4.7	13.3	0.0	9.2	13.9
5.1	2.3	3.2	1.9	4.1	4.1	3.8	4.4	4.4	1.1	7.5	5.3	3.4	3.2	2.0	14.3	2.7	3.8
16.5	15.5	10.0	9.6	6.9	14.1	16.0	11.3	12.5	8.0	10.6	10.7	17.6	6.3	8.2	28.6	7.6	14.4
2.7	2.5	4.8	1.9	4.1	3.2	5.1	1.3	4.0	3.4	3.9	3.5	2.2	3.6	2.0	0.0	2.7	2.6
7.2	9.2	8.8	12.5	11.7	8.5	7.5	8.1	7.0	6.8	8.8	7.9	4.7	5.1	3.1	0.0	4.0	5.5
19.9	12.8	10.4	10.6	20.0	17.0	15.6	15.0	18.7	19.3	14.9	16.5	13.2	14.2	15.0	0.0	14.4	14.3
14.0	8.5	13.9	12.5	13.1	13.3	12.9	13.8	19.0	13.1	14.7	15.4	15.1	17.8	18.0	14.3	17.9	15.5
6.7	4.3	8.8	6.7	6.2	6.8	6.9	5.6	4.0	6.8	9.3	7.2	9.6	8.3	8.2	0.0	8.1	8.7
17.0	22.7	14.7	21.2	17.9	17.5	17.1	18.1	15.8	16.5	13.8	15.3	19.7	17.0	17.0	14.3	17.0	18.1
3.8	1.4	4.4	2.9	2.1	3.4	4.0	1.9	4.8	5.1	4.1	4.1	7.1	4.7	4.8	0.0	4.7	5.9
7.8	5.0	6.4	6.7	4.1	6.9	7.0	6.3	9.2	6.8	7.3	7.5	9.5	8.3	8.8	14.3	8.7	8.8
5.9	4.3	9.6	1.9	6.9	6.2	5.8	5.9	3.7	5.7	5.0	4.8	6.1	5.9	6.1	14.3	6.1	5.7
14.5	7.8	13.1	16.3	11.7	13.5	14.0	20.6	13.6	9.1	12.3	13.3	10.7	9.1	10.2	0.0	9.6	11.3
0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.1
2.0	24.1	9.2	8.7	5.5	6.1	7.8	5.6	4.4	10.8	8.6	7.5	3.3	8.7	8.2	0.0	8.3	5.1
1.2	0.0	0.8	0.0	0.7	0.8	1.3	0.0	0.0	0.0	0.9	0.4	1.0	0.8	0.7	42.9	1.3	0.9

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-4 Statistical Profile of Doctorate Recipients, by Race/Ethnicity and Citizenship, 1997

		Total				American Indian	Asian				Black			
				Non-U.S.					Non-U.S.				Non-U.S.	
		Total*	U.S.	Perm.	Temp.	Total	Total*	U.S.	Perm.	Temp.	Total*	U.S.	Perm.	Temp.
Total Number		**42,705**	**27,668**	**2,915**	**8,475**	**166**	**9,017**	**1,328**	**1,812**	**5,476**	**1,774**	**1,335**	**141**	**250**
Male	%	58.5	53.5	62.6	76.2	47.0	71.3	57.2	63.0	77.5	48.7	39.5	77.3	77.6
Female		40.6	46.5	37.4	23.7	53.0	28.7	42.8	37.0	22.5	51.3	60.5	22.7	22.4
Doctoral Field														
Physical Sciences	%	15.6	13.0	21.2	23.1	8.0	21.7	19.4	23.8	21.9	6.0	4.5	7.8	12.8
Engineering		14.4	9.8	20.4	28.3	9.9	29.0	22.2	23.1	32.8	7.4	6.2	10.6	13.6
Life Sciences		19.5	18.6	25.5	21.9	12.3	24.4	24.4	30.9	22.2	15.9	12.4	19.1	30.8
Social Sciences		16.4	18.3	11.4	10.6	17.9	10.0	14.2	7.7	9.7	18.8	19.0	24.8	14.4
Humanities		12.8	15.0	11.2	6.4	14.2	5.0	8.6	5.2	3.8	9.9	10.2	12.1	6.4
Education		15.4	19.6	5.7	4.3	30.9	4.7	7.5	4.4	4.0	34.3	39.7	19.9	15.6
Professional/Other		5.7	5.8	4.6	5.3	6.8	5.2	3.8	4.8	5.6	7.6	8.1	5.7	6.4
Median Age at Doct.	Yrs	33.6	34.2	34.0	32.3	37.3	32.7	31.4	33.8	32.4	38.6	39.1	38.9	36.6
Median Time Lapse														
Total Time	Yrs	10.5	10.7	11.3	9.7	12.8	10.2	8.9	11.8	10.0	13.1	14.1	12.2	11.7
Registered Time		7.3	7.4	7.9	7.0	7.6	7.3	7.0	8.1	7.1	7.6	7.8	7.9	6.8
Graduate School Support†														
Veterans Administration	%	1.5	1.9	0.0	0.0	2.4	0.4	0.9	0.0	0.0	3.0	2.1	0.0	0.0
Other Federal		15.1	20.1	8.4	6.5	27.1	7.6	25.8	7.3	3.7	21.4	21.7	16.3	22.4
State Govt		1.7	2.3	1.1	0.7	2.4	0.9	1.7	1.1	0.6	2.9	3.5	1.4	1.2
Foreign Govt		4.2	1.1	5.0	14.4	1.8	6.1	1.1	2.6	8.2	3.2	0.7	3.5	14.4
National Fellow (nonfed.)		5.9	7.1	4.9	4.5	13.3	3.5	7.5	3.1	2.7	13.9	14.1	9.2	16.0
Univ. Teaching Asst★	%	52.8	55.9	61.8	58.4	48.8	56.0	53.5	59.9	56.8	41.5	39.6	53.2	47.2
Univ. Research Asst		54.5	53.4	70.5	71.7	46.4	73.2	64.5	77.2	75.6	44.0	42.1	51.8	54.8
Other University		37.4	42.7	38.7	33.5	46.4	32.8	43.8	35.7	30.0	49.9	54.3	39.0	38.0
Business/Employer		12.3	16.9	7.6	3.9	14.5	5.0	10.5	6.8	3.1	13.5	16.3	6.4	4.4
Self/Family Sources		73.1	85.5	64.8	62.4	83.1	61.6	70.9	57.8	61.6	81.1	86.8	71.6	60.0
GSL (Stafford) Loan	%	23.9	35.6	10.7	0.2	32.5	4.5	22.7	5.4	0.1	34.9	43.1	28.4	0.0
Other Loans		10.3	14.6	4.6	2.4	15.1	2.8	11.0	2.5	1.0	15.2	18.1	13.5	2.8
Other Sources		2.3	2.4	2.2	3.0	4.2	1.8	2.3	1.4	1.7	3.9	2.8	3.5	9.2
Unknown Sources		10.4	4.6	0.9	1.5	6.0	3.8	11.1	1.0	1.6	4.0	3.9	0.7	1.2
Postdoctoral Plans														
Postdoc study plans	%	22.9	20.9	29.2	35.4	13.3	33.2	29.1	31.8	35.4	18.7	16.2	22.0	32.0
Postdoc employment plans	%	63.6	71.5	64.9	59.4	77.1	59.2	57.8	62.3	59.4	72.6	75.7	68.1	62.0
Educ. Institution#		32.4	39.6	24.9	23.3	41.0	20.4	22.0	18.7	20.5	44.4	49.3	35.5	26.0
Industry/Business		16.7	14.8	28.1	24.9	13.3	28.1	22.3	32.7	28.8	9.8	8.5	12.8	16.0
Government		4.3	4.9	2.4	4.4	6.0	3.7	3.5	2.6	4.0	6.4	6.1	5.0	8.4
Nonprofit		3.1	4.1	2.0	1.4	4.2	1.6	2.7	1.7	1.3	3.8	3.9	4.3	2.8
Other/Unknown		7.0	8.1	7.5	5.5	12.7	5.5	7.4	6.6	4.7	8.2	7.9	10.6	8.8
Postdoc plans unknown	%	13.5	7.6	5.9	5.2	9.6	7.6	13.0	5.9	5.2	8.7	8.2	9.9	6.0
Definite Postdoc. Study	%	16.5	16.1	18.7	23.2	8.4	21.6	22.3	20.1	22.5	11.3	11.2	9.2	13.6
Seeking Postdoc. Study		6.4	4.8	10.5	12.2	4.8	11.6	6.9	11.8	12.8	7.4	4.9	12.8	18.4
Definite Employment		41.6	48.4	36.7	36.3	58.4	34.6	37.1	34.9	34.8	47.4	51.6	30.5	37.2
Seeking Employment		21.9	23.1	28.2	23.1	18.7	24.6	20.7	27.4	24.6	25.2	24.0	37.6	24.8
Employment Location														
After Doctorate+	%	**17,775**	**13,395**	**1,071**	**3,080**	**97**	**3,123**	**493**	**632**	**1,904**	**841**	**689**	**43**	**93**
U.S.		88.4	96.5	89.6	56.8	94.8	72.8	92.3	92.1	63.3	89.2	97.8	88.4	37.6
Foreign		10.2	2.2	8.6	41.9	3.1	25.4	4.7	5.9	35.3	9.0	0.7	9.3	60.2
Unknown		1.3	1.3	1.8	1.2	2.1	1.8	3.0	2.1	1.3	1.8	1.5	2.3	2.2

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates.

- * Includes 384 individuals who did not report their sex and 3,647 individuals who did not report their citizenship at time of doctorate.
- † In this table a recipient counts once in each source category from which he or she received support. Since students indicate multiple sources of support, the vertical percentages sum to more than 100 percent. Data on the "primary" source of support for doctorate recipients are presented in the Summary Report.
- ★ Because federal support obtained through the university cannot always be determined, no distinction is made between federal and university research assistants in this table. Both types of support are grouped under "University Research Assistant." Federal loans are counted in the categories for loans.
- # Includes 2-year, 4-year, and foreign colleges and universities, medical schools, and elementary/secondary schools.
- + Includes only recipients with definite employment plans.

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-4 Statistical Profile of Doctorate Recipients, by Race/Ethnicity and Citizenship, 1997

White				Puerto Rican	Mexican American				Other Hispanic				Unknown Race			
		Non-U.S.					Non-U.S.				Non-U.S.				Non-U.S.	
Total*	U.S.	Perm.	Temp.	Total	Total*	U.S.	Perm.	Temp.	Total*	U.S.	Perm.	Temp.	Total*	U.S.	Perm.	Temp.
26,176	**23,021**	**768**	**2,079**	**312**	**335**	**290**	**9**	**28**	**1,029**	**445**	**125**	**402**	**3,896**	**807**	**57**	**220**
55.8	54.0	59.4	73.5	49.4	55.5	53.8	66.7	71.4	61.3	50.6	60.0	71.9	62.4	63.4	59.6	78.2
44.2	46.0	40.6	26.5	50.6	44.5	46.2	33.3	28.6	38.7	49.4	40.0	28.1	37.6	36.6	40.4	21.8
14.6	13.2	19.4	28.5	11.3	8.4	8.0	11.1	14.3	13.7	9.3	11.2	18.4	14.8	17.3	22.8	25.0
10.6	9.3	17.7	21.7	7.4	6.3	5.9	0.0	14.3	12.1	9.3	11.2	16.2	11.3	13.7	15.8	20.9
18.7	18.8	15.5	19.1	16.1	19.3	16.4	44.4	42.9	21.1	17.3	20.8	24.9	15.2	18.1	12.3	23.2
17.8	18.3	15.9	11.5	22.8	22.9	24.0	22.2	17.9	17.6	20.3	16.8	14.9	20.3	17.2	22.8	11.4
15.3	15.5	21.6	11.1	16.7	13.0	12.2	11.1	10.7	19.1	19.1	28.8	16.7	13.4	18.1	15.8	6.4
17.4	19.1	5.7	3.1	22.5	26.8	30.0	11.1	0.0	12.3	19.8	7.2	6.5	17.8	10.7	8.8	7.3
5.7	5.8	4.2	4.9	3.2	3.3	3.5	0.0	0.0	4.0	4.8	4.0	2.5	7.2	4.8	1.8	5.9
33.8	34.2	33.5	31.5	35.8	33.9	33.6	36.6	36.7	35.2	34.5	35.8	35.3	33.2	33.6	33.9	32.0
10.4	10.7	9.6	8.2	12.4	10.5	10.0	13.1	13.9	11.0	11.0	11.1	11.0	10.0	10.4	9.3	9.0
7.3	7.4	7.2	6.6	8.2	7.4	7.5	6.7	6.7	7.1	7.5	7.3	6.8	7.3	7.9	7.3	6.6
1.9	2.0	0.0	0.0	1.3	2.1	1.4	0.0	0.0	3.0	1.1	0.0	0.0	0.6	1.7	0.0	0.0
18.4	19.7	9.5	9.7	22.8	27.2	26.9	22.2	35.7	16.9	23.4	8.0	13.7	4.3	15.0	7.0	10.5
2.0	2.2	1.0	0.4	4.8	3.6	2.8	11.1	7.1	1.7	2.2	1.6	1.2	0.3	1.2	0.0	1.4
3.3	1.1	7.6	24.3	1.6	6.0	0.7	11.1	57.1	19.6	3.6	20.8	36.1	2.5	1.0	12.3	31.8
6.4	6.5	6.9	6.5	9.6	14.0	13.8	11.1	21.4	9.2	9.2	8.8	9.7	2.3	7.2	12.3	7.3
58.3	57.8	68.4	65.4	39.7	51.0	52.4	44.4	46.4	52.5	49.7	61.6	55.2	14.4	42.8	56.1	55.9
55.1	54.1	61.7	68.4	40.4	54.0	54.5	77.8	53.6	51.0	48.8	52.0	55.0	14.7	43.2	63.2	57.7
41.8	42.0	44.8	42.7	46.8	51.0	52.4	55.6	46.4	37.7	45.4	38.4	30.6	10.5	33.3	49.1	35.0
16.2	17.6	9.8	5.5	13.5	11.3	11.4	22.2	10.7	9.5	14.6	7.2	5.5	3.2	12.6	5.3	3.6
84.7	87.3	77.7	65.6	72.8	85.1	88.3	77.8	67.9	70.7	80.2	76.0	63.2	17.9	60.6	68.4	50.0
32.2	36.0	17.6	0.2	36.9	40.6	45.9	22.2	0.0	19.6	38.7	22.4	0.5	5.9	26.1	14.0	0.5
13.3	14.3	7.6	5.5	19.6	23.9	26.6	22.2	3.6	11.3	19.8	6.4	4.5	3.0	12.3	5.3	2.7
2.5	2.3	3.4	4.0	3.2	4.2	3.4	11.1	10.7	5.6	3.1	4.0	8.5	0.7	1.5	1.8	5.9
3.5	3.2	0.7	0.8	11.2	5.1	4.1	0.0	0.0	6.0	7.2	0.8	3.7	76.1	31.0	1.8	1.4
22.4	21.0	25.5	38.2	15.4	21.2	22.4	33.3	10.7	23.3	21.1	21.6	27.1	5.9	15.1	28.1	32.7
71.2	73.0	69.4	57.9	66.7	69.3	69.3	55.6	82.1	67.2	69.4	73.6	64.7	16.1	49.2	63.2	57.7
39.0	40.5	33.7	27.8	37.5	43.9	43.8	33.3	50.0	38.9	41.8	44.0	34.8	7.2	22.4	35.1	22.7
15.5	15.1	22.8	18.7	11.5	11.0	11.4	0.0	14.3	12.2	9.7	16.8	14.2	3.9	11.4	19.3	15.9
4.8	5.0	1.7	3.8	5.4	4.8	3.8	0.0	17.9	5.3	4.3	1.6	7.7	1.2	3.0	1.8	5.5
4.0	4.3	2.3	1.3	3.2	2.7	3.1	0.0	0.0	3.4	4.9	2.4	2.0	0.6	2.2	1.8	1.8
7.9	8.1	8.9	6.3	9.0	6.9	7.2	22.2	0.0	7.4	8.8	8.8	6.0	3.2	10.2	5.3	11.8
6.5	6.1	5.1	3.8	17.9	9.6	8.3	11.1	7.1	9.4	9.4	4.8	8.2	78.1	35.7	8.8	9.5
17.1	16.3	17.7	27.4	12.2	14.6	14.8	33.3	10.7	14.6	13.3	12.8	17.2	4.6	12.3	22.8	24.1
5.3	4.7	7.8	10.9	3.2	6.6	7.6	0.0	0.0	8.7	7.9	8.8	10.0	1.3	2.9	5.3	8.6
48.0	49.5	40.4	38.6	45.5	47.2	47.6	22.2	53.6	45.8	46.7	49.6	44.0	9.7	30.2	35.1	36.4
23.2	23.5	29.0	19.3	21.2	22.1	21.7	33.3	28.6	21.5	22.7	24.0	20.6	6.4	19.0	28.1	21.4
12,565	**11,396**	**310**	**803**	**142**	**158**	**138**	**2**	**15**	**471**	**208**	**62**	**177**	**378**	**244**	**20**	**80**
93.2	96.8	85.5	51.2	95.8	88.6	96.4	50.0	33.3	67.1	92.8	90.3	35.6	77.8	94.7	80.0	32.5
5.6	2.1	12.9	47.8	2.1	8.9	2.2	50.0	60.0	32.1	5.8	9.7	63.8	20.4	3.7	20.0	66.3
1.2	1.2	1.6	1.0	2.1	2.5	1.4	0.0	6.7	0.8	1.4	0.0	0.6	1.9	1.6	0.0	1.3

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-5 Sources of Graduate School Support for Doctorate Recipients by Broad Field and Sex, 1997

		Total•		Physical Sciences		Engineering		Life Sciences		Social Sciences		Humanities		Education		Prof/Other Fields	
		Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Federal	N	2,573	2,133	448	187	394	149	994	1,022	331	426	263	203	104	114	39	31
Fellow/	V★	11.3%	13.7%	9.5%	14.1%	8.0%	21.1%	23.8%	29.7%	11.3%	13.3%	10.4%	8.6%	4.9%	3.1%	3.0%	3.7%
Trainee	H★	100.0%	100.0%	17.4%	8.8%	15.3%	7.0%	38.6%	47.9%	12.9%	20.0%	10.2%	9.5%	4.0%	5.3%	1.5%	1.5%
Veterans	N	454	195	52	7	44	6	38	31	112	94	79	35	88	14	41	8
Admin.	V	2.0%	1.3%	1.1%	0.5%	0.9%	0.8%	0.9%	0.9%	3.8%	2.9%	3.1%	1.5%	4.2%	0.4%	3.2%	1.0%
	H	100.0%	100.0%	11.5%	3.6%	9.7%	3.1%	8.4%	15.9%	24.7%	48.2%	17.4%	17.9%	19.4%	7.2%	9.0%	4.1%
Other	N	1,697	1,064	582	196	454	97	263	288	184	196	101	104	69	138	44	44
Federal	V	7.5%	6.8%	12.3%	14.7%	9.2%	13.7%	6.3%	8.4%	6.3%	6.1%	4.0%	4.4%	3.3%	3.8%	3.4%	5.3%
Support+	H	100.0%	100.0%	34.3%	18.4%	26.8%	9.1%	15.5%	27.1%	10.8%	18.4%	6.0%	9.8%	4.1%	13.0%	2.6%	4.1%
State	N	429	291	61	19	74	5	89	71	78	71	47	43	56	65	24	17
Government	V	1.9%	1.9%	1.3%	1.4%	1.5%	0.7%	2.1%	2.1%	2.7%	2.2%	1.9%	1.8%	2.6%	1.8%	1.8%	2.1%
	H	100.0%	100.0%	14.2%	6.5%	17.2%	1.7%	20.7%	24.4%	18.2%	24.4%	11.0%	14.8%	13.1%	22.3%	5.6%	5.8%
Foreign	N	1,335	463	217	52	332	36	253	111	217	83	180	105	72	48	64	28
Government	V	5.9%	3.0%	4.6%	3.9%	6.7%	5.1%	6.1%	3.2%	7.4%	2.6%	7.1%	4.5%	3.4%	1.3%	4.9%	3.4%
	H	100.0%	100.0%	16.3%	11.2%	24.9%	7.8%	19.0%	24.0%	16.3%	17.9%	13.5%	22.7%	5.4%	10.4%	4.8%	6.0%
National	N	1,302	1,225	210	76	154	60	219	266	270	277	341	382	44	113	64	50
Fellow	V	5.7%	7.9%	4.4%	5.7%	3.1%	8.5%	5.3%	7.7%	9.2%	8.6%	13.5%	16.2%	2.1%	3.1%	4.9%	6.0%
(nonfed.)	H	100.0%	100.0%	16.1%	6.2%	11.8%	4.9%	16.8%	21.7%	20.7%	22.6%	26.2%	31.2%	3.4%	9.2%	4.9%	4.1%
University	N	13,757	8,766	3,743	1,093	2,589	423	1,908	1,576	2,084	2,121	2,008	1,934	616	1,089	809	529
Teaching	V	60.6%	56.4%	79.1%	82.2%	52.5%	59.8%	45.8%	45.8%	71.2%	66.2%	79.3%	82.2%	29.1%	29.7%	62.2%	63.9%
Assistant	H	100.0%	100.0%	27.2%	12.5%	18.8%	4.8%	13.9%	18.0%	15.1%	24.2%	14.6%	22.1%	4.5%	12.4%	5.9%	6.0%
University	N	14,980	8,292	3,860	1,074	4,048	596	3,358	2,588	1,727	1,879	802	755	490	977	694	420
Research	V	65.9%	53.4%	81.6%	80.8%	82.1%	84.3%	80.5%	75.2%	59.0%	58.6%	31.7%	32.1%	23.1%	26.6%	53.4%	50.7%
Assistant+	H	100.0%	100.0%	25.8%	13.0%	27.0%	7.2%	22.4%	31.2%	11.5%	22.7%	5.4%	9.1%	3.3%	11.8%	4.6%	5.1%
University	N	7,529	5,337	1,523	462	1,331	262	1,339	1,217	1,243	1,245	1,361	1,269	294	607	438	274
Fellow	V	33.1%	34.3%	32.2%	34.8%	27.0%	37.1%	32.1%	35.3%	42.4%	38.9%	53.7%	54.0%	13.9%	16.5%	33.7%	33.1%
	H	100.0%	100.0%	20.2%	8.7%	17.7%	4.9%	17.8%	22.8%	16.5%	23.3%	18.1%	23.8%	3.9%	11.4%	5.8%	5.1%
Other	N	2,312	2,469	274	87	303	46	336	409	448	684	508	489	291	625	152	129
University	V	10.2%	15.9%	5.8%	6.5%	6.1%	6.5%	8.1%	11.9%	15.3%	21.3%	20.1%	20.8%	13.7%	17.0%	11.7%	15.6%
	H	100.0%	100.0%	11.9%	3.5%	13.1%	1.9%	14.5%	16.6%	19.4%	27.7%	22.0%	19.8%	12.6%	25.3%	6.6%	5.2%
Business/	N	2,924	2,331	406	113	659	77	298	332	441	542	381	327	517	768	222	172
Employer	V	12.9%	15.0%	8.6%	8.5%	13.4%	10.9%	7.1%	9.6%	15.1%	16.9%	15.0%	13.9%	24.4%	20.9%	17.1%	20.8%
	H	100.0%	100.0%	13.9%	4.8%	22.5%	3.3%	10.2%	14.2%	15.1%	23.3%	13.0%	14.0%	17.7%	32.9%	7.6%	7.4%
Own	N	14,788	11,647	2,375	631	2,656	358	2,277	1,989	2,375	2,683	2,157	1,973	1,906	3,323	1,039	686
Earnings	V	65.1%	75.0%	50.2%	47.5%	53.9%	50.6%	54.6%	57.8%	81.1%	83.7%	85.2%	83.9%	89.9%	90.5%	79.9%	82.9%
	H	100.0%	100.0%	16.1%	5.4%	18.0%	3.1%	15.4%	17.1%	16.1%	23.0%	14.6%	16.9%	12.9%	28.5%	7.0%	5.9%
Spouse's	N	7,171	6,263	1,104	372	1,088	192	1,358	1,229	1,093	1,387	1,058	994	952	1,690	518	397
Earnings	V	31.6%	40.3%	23.3%	28.0%	22.1%	27.2%	32.6%	35.7%	37.3%	43.3%	41.8%	42.3%	44.9%	46.0%	39.8%	47.9%
	H	100.0%	100.0%	15.4%	5.9%	15.2%	3.1%	18.9%	19.6%	15.2%	22.1%	14.8%	15.9%	13.3%	27.0%	7.2%	6.3%
Family	N	8,358	5,453	1,496	388	1,885	204	1,425	1,085	1,341	1,416	1,162	1,111	565	951	482	298
Support	V	36.8%	35.1%	31.6%	29.2%	38.2%	28.9%	34.2%	31.5%	45.8%	44.2%	45.9%	47.2%	26.7%	25.9%	37.1%	36.0%
	H	100.0%	100.0%	17.9%	7.1%	22.6%	3.7%	17.0%	19.9%	16.0%	26.0%	13.9%	20.4%	6.8%	17.4%	5.8%	5.5%
Guaranteed	N	5,444	4,749	718	210	582	91	921	652	1,218	1,574	1,054	981	582	964	368	277
Student Loan	V	24.0%	30.6%	15.2%	15.8%	11.8%	12.9%	22.1%	18.9%	41.6%	49.1%	41.6%	41.7%	27.5%	26.3%	28.3%	33.5%
(Stafford)	H	100.0%	100.0%	13.2%	4.4%	10.7%	1.9%	16.9%	13.7%	22.4%	33.1%	19.4%	20.7%	10.7%	20.3%	6.8%	5.8%
Perkins Loan	N	1,629	1,491	149	47	155	20	226	156	467	553	350	356	169	281	112	78
(NDSL)	V	7.2%	9.6%	3.1%	3.5%	3.1%	2.8%	5.4%	4.5%	15.9%	17.3%	13.8%	15.1%	8.0%	7.7%	8.6%	9.4%
	H	100.0%	100.0%	9.1%	3.2%	9.5%	1.3%	13.9%	10.5%	28.7%	37.1%	21.5%	23.9%	10.4%	18.8%	6.9%	5.2%
Other	N	868	857	119	29	100	24	121	116	199	273	163	165	102	186	64	64
Loans	V	3.8%	5.5%	2.5%	2.2%	2.0%	3.4%	2.9%	3.4%	6.8%	8.5%	6.4%	7.0%	4.8%	5.1%	4.9%	7.7%
	H	100.0%	100.0%	13.7%	3.4%	11.5%	2.8%	13.9%	13.5%	22.9%	31.9%	18.8%	19.3%	11.8%	21.7%	7.4%	7.5%
Other	N	576	424	88	23	95	13	109	104	86	73	93	58	49	123	56	30
Sources	V	2.5%	2.7%	1.9%	1.7%	1.9%	1.8%	2.6%	3.0%	2.9%	2.3%	3.7%	2.5%	2.3%	3.4%	4.3%	3.6%
	H	100.0%	100.0%	15.3%	5.4%	16.5%	3.1%	18.9%	24.5%	14.9%	17.2%	16.1%	13.7%	8.5%	29.0%	9.7%	7.1%
Unduplicated Total#		22,716	15,538	4,731	1,329	4,930	707	4,170	3,443	2,929	3,204	2,533	2,352	2,120	3,671	1,300	828

NOTE: In this table a recipient counts once in each source category from which he or she received support. Since students indicate multiple sources of support, the vertical percentages sum to more than 100 percent. Data on the "primary" source of support for doctorate recipients are presented in the body of the Summary report. Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates.

• Excludes 384 individuals for whom sex was not reported.

★ V denotes vertical percentage; H denotes horizontal percentage.

+ Because federal support obtained through the university cannot always be determined, no distinction is made between federal and university research assistants in this table. Both types of support are grouped under "University Research Assistant." Federal loans are counted in the categories for loans.

# The 4,451 Ph.D.s who did not report sources of support are omitted from this total. Percentages are based only on known responses.

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-6 State of Doctoral Institution of Doctorate Recipients, by Broad Field and Sex

	Total**		Physical Sciences		Engineering		Life Sciences		Social Sciences		Humanities		Education		Prof./Other Fields	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
U.S. Total★	24,999	17,322	5,088	1,441	5,264	747	4,487	3,669	3,241	3,613	2,774	2,572	2,367	4,079	1,459	921
Alabama	309	242	56	14	69	13	82	72	22	28	11	14	44	89	24	8
Alaska	17	3	10	2	1	0	5	1	1	0	0	0	0	0	0	0
Arizona	482	312	120	26	113	10	66	54	45	48	45	48	64	103	28	23
Arkansas	72	64	8	1	15	1	18	20	2	6	4	4	15	31	10	1
California	2,893	1,980	651	179	665	94	461	406	423	552	334	297	190	337	122	82
Colorado	499	311	140	37	128	16	78	70	61	60	30	40	45	70	16	15
Connecticut	343	241	85	20	42	13	66	61	57	48	65	62	18	30	9	7
Delaware	106	59	33	8	39	9	4	9	13	13	6	8	9	11	1	0
Dist. of Columbia	263	223	33	12	30	7	35	40	77	73	41	47	14	33	30	11
Florida	958	824	127	27	172	14	124	86	98	188	89	58	235	385	97	48
Georgia	496	372	80	24	133	21	104	86	47	79	59	54	43	81	30	26
Hawaii	110	66	19	4	5	1	22	13	36	23	21	13	5	10	1	2
Idaho	66	20	21	1	11	0	12	8	7	0	1	0	14	11	0	0
Illinois	1,348	872	278	65	261	39	194	177	204	172	187	156	124	186	78	60
Indiana	694	408	152	32	169	14	101	76	76	70	88	94	45	87	30	18
Iowa	392	246	73	21	85	17	99	58	32	33	42	42	45	59	15	15
Kansas	281	189	52	19	32	6	73	40	30	39	45	21	36	51	12	12
Kentucky	219	118	40	9	33	6	52	36	28	18	26	9	16	32	23	8
Louisiana	332	204	59	28	48	5	103	58	30	29	45	24	12	45	33	14
Maine	42	18	6	3	7	1	13	6	3	2	5	1	6	5	2	0
Maryland	545	423	129	39	117	16	139	141	82	92	50	65	15	56	12	8
Massachusetts	1,277	791	322	85	250	61	208	179	214	167	135	129	66	127	67	33
Michigan	875	561	177	58	242	31	152	115	96	135	79	76	76	108	52	37
Minnesota	479	368	78	29	95	9	100	101	42	51	52	48	77	103	35	27
Mississippi	204	125	25	7	20	3	39	17	22	22	11	11	46	62	38	3
Missouri	445	310	68	29	83	13	84	63	74	65	49	39	50	81	35	20
Montana	56	38	19	6	2	0	18	7	5	2	0	1	12	22	0	0
Nebraska	177	136	31	12	15	2	55	25	25	27	13	10	23	48	15	12
Nevada	23	19	9	2	3	0	2	4	1	2	3	2	5	9	0	0
New Hampshire	68	37	23	9	14	1	17	13	9	9	4	1	1	4	0	0
New Jersey	535	360	132	55	119	22	77	75	70	65	94	89	13	35	21	11
New Mexico	134	91	30	12	29	2	15	18	15	16	11	12	28	27	5	3
New York	2,069	1,524	439	109	355	52	348	276	346	381	297	340	122	223	108	76
North Carolina	581	501	92	43	125	26	170	157	78	80	65	71	32	107	18	15
North Dakota	45	26	12	0	6	0	20	5	3	5	1	0	3	16	0	0
Ohio	1,144	790	221	65	278	30	209	175	123	159	116	77	120	213	67	64
Oklahoma	272	183	45	12	47	7	36	19	32	40	44	24	45	62	17	13
Oregon	245	177	58	25	37	8	73	45	29	29	22	21	16	43	7	6
Pennsylvania	1,370	930	230	67	380	49	165	170	174	175	164	157	137	235	116	68
Puerto Rico	34	65	3	3	1	0	3	1	15	31	6	7	6	23	0	0
Rhode Island	134	95	50	19	21	1	13	14	19	28	26	31	0	0	5	2
South Carolina	240	166	49	15	34	4	62	36	22	21	24	28	34	54	15	8
South Dakota	53	41	4	0	3	0	11	4	5	9	0	1	29	27	0	0
Tennessee	400	330	52	16	81	14	75	65	55	57	35	29	67	126	33	17
Texas	1,629	1,060	317	68	405	52	290	226	150	195	147	137	162	282	146	83
Utah	231	132	31	11	41	3	26	30	38	25	3	6	24	20	8	3
Vermont	27	34	4	0	4	0	10	8	3	14	2	4	4	8	0	0
Virginia	616	476	125	44	174	30	89	89	65	93	62	49	74	136	25	27
Washington	425	310	97	38	86	8	101	86	36	50	46	52	36	57	23	19
West Virginia	86	60	9	0	27	1	13	11	11	11	3	5	23	32	0	0
Wisconsin	597	374	138	28	108	14	140	115	82	70	65	58	34	72	30	16
Wyoming	61	17	26	3	4	1	15	2	8	6	1	0	7	5	0	0

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates.

★Includes the 50 states, District of Columbia, and Puerto Rico. **Excludes 384 individuals for whom sex was not reported.

SOURCE: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-7 Institutions Granting Doctorates, by Major Field, 1997

	1997 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sciences	Math and Computer Sciences	Engineering	Biosciences	Health Sciences	Agricultural Sci.	Psychology	Other Social Sciences	History	Eng. And Amer. Language and Lit.	Other Humanities	Education	Professional/Other/ Unknown Fields
TOTAL ALL INSTITUTIONS~	42,705	1,576	2,115	882	2,001	6,052	5,717	1,394	1,102	3,487	3,430	954	1,080	3,353	6,497	3,065
ALABAMA	552	18	18	5	29	83	88	37	29	30	20	8	12	5	133	37
Alabama A&M University	17	8	0	0	0	0	0	0	4	0	0	0	0	0	0	5
Auburn University	166	3	6	0	16	42	12	6	25	14	9	6	0	1	22	4
United States Sports Academy	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Univ of Alabama-Birmingham	138	3	5	0	6	7	63	30	0	7	2	0	0	0	15	0
Univ of Alabama-Huntsville	31	3	0	3	2	23	0	0	0	0	0	0	0	0	0	0
Univ of Alabama	184	1	7	1	5	11	5	0	0	9	9	2	12	4	90	28
Univ of South Alabama	15	0	0	1	0	0	8	1	0	0	0	0	0	0	5	0
ALASKA	20	1	0	10	1	1	4	0	2	0	1	0	0	0	0	0
Univ of Alaska	20	1	0	10	1	1	4	0	2	0	1	0	0	0	0	0
ARIZONA	794	43	42	33	28	123	83	16	21	30	63	11	13	69	167	52
Arizona State Univ	279	5	22	4	10	54	20	6	0	19	20	6	7	23	54	29
Northern Arizona Univ	70	0	0	0	0	0	4	0	1	0	10	2	0	2	51	0
Univ of Arizona	445	38	20	29	18	69	59	10	20	11	33	3	6	44	62	23
ARKANSAS	136	0	8	0	1	16	22	3	13	8	0	2	4	2	46	11
Arkansas State Univ	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
U of Arkansas-Fayetteville	113	0	8	0	1	15	11	3	13	8	0	2	4	2	35	11
U of Arkansas-Little Rock	7	0	0	0	0	1	0	0	0	0	0	0	0	0	6	0
U of Arkansas-Med Sci Campus	11	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
CALIFORNIA	4,912	228	265	117	227	762	702	111	54	561	424	132	119	381	532	297
Biola University	16	0	0	0	0	0	0	0	0	7	0	0	0	3	5	1
California Inst of Integral Studies	8	0	0	0	0	0	0	0	0	5	0	0	0	1	2	0
California Inst of Technology	173	36	28	12	10	68	17	0	0	0	2	0	0	0	0	0
Calif Sch Prof Psych-Alameda	63	0	0	0	0	0	0	0	0	61	0	0	0	0	0	2
Calif. Sch Prof Psych-Fresno	31	0	0	0	0	0	0	0	0	31	0	0	0	0	0	0
Calif Sch Prof Psych-LA	56	0	0	0	0	0	0	0	0	54	0	0	0	0	0	2
Calif Sch Prof Psych-San Diego	78	0	0	0	0	0	0	0	0	78	0	0	0	0	0	0
Claremont Graduate School	111	0	0	0	9	0	3	0	0	8	27	2	7	15	24	16
Fielding Institute	72	0	0	0	0	0	0	0	0	40	8	0	0	0	1	23
Fuller Theological Seminary	40	0	0	0	0	0	0	0	0	15	3	0	0	10	0	12
Golden Gate Baptist Theol Sem	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Graduate Theological Union	20	0	0	0	0	0	0	0	0	0	1	0	1	8	0	10
La Sierra Univ	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Loma Linda Univ	18	0	0	0	0	0	14	3	0	0	0	0	0	0	0	1
Naval Postgraduate School	20	3	0	5	4	8	0	0	0	0	0	0	0	0	0	0
Pacific Grad School of Psychology	47	0	0	0	0	0	0	1	0	24	0	0	0	3	0	19
Pepperdine Univ	33	0	0	0	0	0	0	0	0	0	0	0	0	0	32	1
Rand Grad Sch of Policy Studies	8	0	0	0	0	0	0	0	0	0	7	0	0	0	1	0
Research Inst of Scripps Clinic	20	0	11	0	0	0	9	0	0	0	0	0	0	0	0	0
San Diego State Univ	31	0	1	0	0	2	7	0	0	11	0	0	0	0	10	0
School of Theology at Claremont	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Stanford University	591	34	27	15	43	185	68	0	1	12	48	14	13	53	44	34
U.S. International Univ	60	0	0	0	0	0	0	0	0	42	0	0	0	0	11	7
Univ of California-Berkeley	759	39	49	8	53	148	89	25	25	18	103	29	24	82	37	30
Univ of California-Davis	349	23	21	15	12	47	124	3	20	7	22	9	17	16	9	4
Univ of California-Irvine	219	7	20	0	17	39	52	1	0	12	26	5	8	20	0	12
Univ of California-Los Angeles	670	27	26	23	34	85	96	23	2	43	67	41	12	71	87	33
Univ of California-Riverside	124,	6	8	2	6	0	31	0	6	15	19	3	10	8	10	0
Univ of California-San Diego	261	20	18	21	14	37	65	0	0	10	23	10	4	14	1	24
Univ of California-San Francisco	123	0	17	0	0	2	62	32	0	0	7	0	0	0	1	2
Univ of California-Santa Barbara	224	14	17	5	7	55	16	0	0	20	24	7	7	27	21	4
Univ of California-Santa Cruz	93	12	8	5	3	9	14	0	0	8	8	6	9	7	1	3
Univ of La Verne	45	0	0	0	0	0	0	0	0	0	0	0	0	0	45	0
Univ of the Pacific	12	0	0	0	0	0	2	2	0	0	0	0	0	0	8	0
Univ of San Diego	21	0	0	0	0	0	0	12	0	0	0	0	0	0	9	0
Univ of San Francisco	91	0	0	0	0	0	0	0	0	0	0	0	0	0	91	0
Univ of Santa Clara	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Univ of Southern California	396	7	14	6	15	74	33	9	0	28	29	6	7	43	80	45
Wright Institute, The	22	0	0	0	0	0	0	0	0	12	0	0	0	0	0	10
COLORADO	812	40	44	52	41	144	93	31	24	53	69	12	10	49	115	35
Colorado School of Mines	52	3	2	17	5	25	0	0	0	0	0	0	0	0	0	0
Colorado State Univ	202	9	22	16	10	35	25	4	24	10	19	0	0	0	23	5
Univ of Colorado	399	27	18	19	18	84	61	24	0	18	43	10	5	32	22	18
Univ of Denver	78	1	1	0	3	0	3	0	0	11	7	2	5	10	25	10
Univ of Northern Colorado	81	0	1	0	5	0	4	3	0	14	0	0	0	7	45	2
CONNECTICUT	590	24	36	10	35	56	107	11	11	38	68	25	19	83	48	19
Univ of Connecticut	251	6	13	5	9	38	38	4	4	30	23	5	5	11	48	12
Univ of New Haven	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Wesleyan Univ	11	1	3	0	1	0	3	0	0	0	0	0	0	3	0	0
Yale Univ	326	17	20	5	25	18	66	7	7	8	45	20	14	69	0	5

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates.

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-7 Institutions Granting Doctorates, by Major Field, 1997

	1997 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sciences	Math and Computer Sciences	Engineering	Biosciences	Health Sciences	Agricultural Sci.	Psychology	Other Social Sciences	History	Eng. And Amer Language and Lit	Other Humanities	Education	Professional/Other/ Unknown Fields
DELAWARE	165	8	11	10	12	48	8	0	5	10	16	2	8	4	20	3
Univ of Delaware	161	8	11	10	12	48	8	0	5	10	16	2	8	4	18	1
Wilmington College	4	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
DISTRICT OF COLUMBIA	493	10	16	1	19	37	63	12	0	55	100	22	11	56	47	44
American Univ	47	4	0	0	1	0	0	0	0	5	30	1	0	0	5	1
Catholic Univ of America	97	3	0	0	0	9	3	4	0	15	13	3	3	29	3	12
Gallaudet Univ	6	0	0	0	0	0	0	0	0	4	0	0	0	0	2	0
George Washington Univ	169	1	3	1	13	26	20	3	0	14	19	8	8	2	34	17
Georgetown Univ	94	0	8	0	0	0	28	0	0	0	24	9	0	24	0	1
Howard Univ	80	2	5	0	5	2	12	5	0	17	14	1	0	1	3	13
FLORIDA	1,808	29	39	37	50	187	127	29	54	225	69	26	43	81	628	184
Barry Univ	13	0	0	0	0	0	0	0	0	1	1	0	0	0	5	6
Caribbean Ctr Adv Stud-Miami	29	0	0	0	0	0	0	0	0	27	0	0	0	2	0	0
Florida A&M Univ	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0
Florida Atlantic Univ	52	1	0	0	4	16	1	0	0	3	0	0	0	0	17	10
Florida Inst of Technology	30	0	2	1	4	12	2	0	0	1	0	0	0	0	8	0
Florida International Univ	52	0	0	0	1	1	3	0	0	2	8	0	0	0	30	7
Florida State Univ	312	8	4	20	9	6	11	1	0	22	17	19	25	49	68	53
Nova Southeastern Univ	539	0	0	1	10	0	2	0	0	105	1	0	0	12	351	57
Univ of Central Florida	75	3	0	0	1	28	0	0	0	1	0	0	0	0	39	3
Univ of Florida	425	12	28	1	11	96	65	19	54	29	31	5	8	12	40	14
Univ of Miami	99	5	1	8	3	9	16	6	0	14	10	2	3	5	13	4
Univ of Sarasota	51	0	0	0	0	0	0	0	0	1	0	0	0	0	24	26
Univ of South Florida	127	0	4	6	7	19	23	3	0	19	1	0	7	1	33	4
GEORGIA	874	21	47	12	25	155	115	39	36	87	39	14	29	73	125	57
Clark Atlanta Univ	26	0	0	0	0	0	0	0	0	0	4	1	0	10	11	0
Emory University	148	1	18	0	4	0	38	3	0	16	9	6	11	36	2	4
Georgia Inst of Technology	224	18	13	9	15	151	5	1	0	5	1	0	0	1	0	5
Georgia Southern Univ	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0
Georgia State Univ	116	0	4	0	0	0	9	5	0	20	13	3	6	2	36	18
Institute of Paper Sci & Tech	7	0	0	0	0	3	0	0	4	0	0	0	0	0	0	0
Medical College of Georgia	17	0	0	0	0	0	7	10	0	0	0	0	0	0	0	0
Mercer Univ-Southern Schl of Phar	2	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
Univ of Georgia	328	2	12	3	6	1	55	19	32	46	12	4	12	24	70	30
HAWAII	176	7	4	9	3	6	22	4	9	11	48	7	3	24	15	4
Univ of Hawaii at Manoa	176	7	4	9	3	6	22	4	9	11	48	7	3	24	15	4
IDAHO	86	4	11	0	7	11	10	3	7	0	7	1	0	0	25	0
Idaho State Univ	18	0	0	0	2	1	3	2	0	0	4	0	0	0	6	0
Univ of Idaho	68	4	11	0	5	10	7	1	7	0	3	1	0	0	19	0
ILLINOIS	2,245	94	108	17	128	303	259	77	36	167	212	68	62	216	316	182
Depaul Univ	19	0	0	0	0	0	0	0	0	15	0	0	0	3	0	1
Finch U of Hlth Sci-Chicago Med	14	0	0	0	0	0	7	1	0	6	0	0	0	0	0	0
Illinois Inst of Technology	64	2	0	0	14	32	1	0	0	14	0	0	0	0	0	1
Illinois State Univ-Normal	46	0	0	0	0	0	5	0	0	0	2	1	5	3	30	0
Inst for Clinical Social Work	10	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8
Loyola Univ of Chicago	104	0	7	0	0	0	17	5	0	22	3	1	4	10	30	5
Lutheran School of Theol-Chicago	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Northern Illinois Univ	111	0	5	0	3	0	4	0	0	7	7	2	5	1	51	26
Northwestern Univ	354	14	22	1	15	78	40	4	0	21	37	8	8	49	11	46
Roosevelt Univ	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0
Rush Univ	15	0	0	0	0	0	3	8	0	0	0	0	0	3	0	1
Southern Ill Univ-Carbondale	159	1	3	2	3	5	8	5	3	17	18	3	11	13	51	16
Southern Ill Univ-Edwardsville	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
Univ of Chicago	361	37	17	5	21	2	49	0	0	18	77	30	13	60	11	21
Univ of Illinois-Chicago	236	5	12	0	17	22	53	50	0	13	13	9	4	5	23	10
Univ of Illinois-Urbana/Champaign	736	35	42	9	55	164	72	4	33	34	55	14	12	68	93	46
INDIANA	1,109	42	77	12	55	183	111	31	35	69	78	28	31	124	133	100
Ball State Univ	48	0	0	0	0	0	1	0	0	13	0	0	1	11	21	1
Indiana State Univ	34	0	0	0	0	0	4	0	0	11	1	0	0	0	18	0
Indiana Univ-Bloomington	394	13	24	7	16	0	47	12	6	14	46	22	11	85	75	22
Indiana Univ-Purdue-Indianapolis	7	0	0	0	0	0	0	2	0	0	0	0	0	1	0	4
Purdue Univ	509	17	43	5	31	149	51	17	35	25	18	3	11	18	19	67
Univ of Notre Dame	117	12	10	0	8	34	8	0	0	6	13	3	8	9	0	6
IOWA	652	18	44	5	27	104	99	33	30	37	30	6	17	62	106	34
Drake Univ	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
Iowa State Univ	254	6	27	3	12	50	63	3	28	9	15	2	0	1	33	2
Maharishi International Univ	16	3	0	0	0	0	2	1	0	2	0	0	0	2	1	5
Univ of Iowa	364	9	17	2	15	50	34	29	2	26	15	4	17	59	59	26
Univ of Northern Iowa	9	0	0	0	0	4	0	0	0	0	0	0	0	0	4	1

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APPENDIX TABLE A-7 Institutions Granting Doctorates, by Major Field, 1997

	1997 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sciences	Math and Computer Sciences	Engineering	Biosciences	Health Sciences	Agricultural Sci.	Psychology	Other Social Sciences	History	Eng. And Amer. Language and Lit	Other Humanities	Education	Professional Other/ Unknown Fields
KANSAS	470	17	35	4	15	38	53	12	48	39	30	15	11	40	87	26
Kansas State Univ	174	10	9	0	6	11	20	0	48	8	15	3	0	4	33	7
Univ of Kansas	265	7	24	4	6	11	33	9	0	29	15	12	11	36	49	19
Wichita State Univ	31	0	2	0	3	16	0	3	0	2	0	0	0	0	5	0
KENTUCKY	338	4	23	1	21	39	65	11	12	22	25	7	6	22	48	32
Southern Bapt Theol Seminary	25	0	0	0	0	0	0	0	0	1	1	1	0	15	2	5
Spalding Univ	11	0	0	0	0	0	0	0	0	0	0	0	0	0	10	1
Univ of Kentucky	240	4	14	1	20	30	46	11	12	12	20	6	5	5	29	25
Univ of Louisville	62	0	9	0	1	9	19	0	0	9	4	0	1	2	7	1
LOUISIANA	537	13	26	11	37	53	92	44	26	23	36	8	19	42	57	50
Grambling State Univ	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0
Louisiana St U and A&M Col-Baton Rouge	232	12	12	11	19	23	24	12	26	13	15	3	9	13	21	19
Louisiana St U Med Schl-New Orleans	25	0	0	0	0	0	15	10	0	0	0	0	0	0	0	0
Louisiana St U Med Schl-Shreveport	9	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0
Louisiana Tech Univ	10	0	1	0	0	4	0	0	0	0	0	0	0	0	0	5
New Orleans Bapt Theol Seminary	34	0	0	0	0	0	0	0	0	2	0	1	0	15	2	14
Northeast Louisiana Univ	13	0	1	0	0	0	3	9	0	0	0	0	0	0	0	0
Southern Univ and A&M Univ-Baton Rouge	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Tulane Univ of Louisiana	128	0	4	0	8	24	36	13	0	7	13	4	3	7	0	9
Univ of New Orleans	44	1	8	0	0	0	0	0	0	1	7	0	0	0	25	2
Univ of Southwestern Louisiana	32	0	0	0	10	2	5	0	0	0	1	0	7	7	0	0
MAINE	60	5	2	2	0	8	14	0	5	5	0	5	0	1	11	2
Univ of Maine	60	5	2	2	0	8	14	0	5	5	0	5	0	1	11	2
MARYLAND	987	53	34	22	60	134	172	103	13	78	97	19	18	80	73	31
Johns Hopkins Univ	331	14	9	10	12	40	91	71	0	8	37	12	6	14	4	3
Loyola College in Maryland	7	0	0	0	0	0	0	0	0	6	0	0	0	0	0	1
Morgan State Univ	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0
Peabody Inst of Johns Hopkins	12	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0
Uniformed Serv U of Hlth Sci	6	0	0	0	0	0	2	0	0	4	0	0	0	0	0	0
Univ of Maryland-Baltimore County	58	3	5	0	10	6	9	0	0	14	9	0	0	1	0	1
Univ of Maryland-College Park	505	36	17	12	38	88	40	10	13	46	50	7	12	53	64	19
Univ of Maryland-Baltimore Prof Schs	63	0	3	0	0	0	30	22	0	0	1	0	0	0	0	7
MASSACHUSETTS	2,115	136	103	52	120	317	323	69	10	103	285	59	44	165	196	133
Boston College	105	5	4	0	0	0	8	2	0	15	18	7	1	7	25	13
Boston Univ	261	14	7	5	7	21	52	15	1	21	22	7	2	31	23	33
Brandeis Univ	102	4	8	0	6	1	18	2	0	2	32	11	7	10	0	1
Clark Univ	32	3	0	1	1	0	2	1	0	1	21	0	0	0	2	0
Harvard Univ	593	26	24	7	22	10	133	32	0	11	97	27	14	81	66	43
Mass Coll Pharm & Health Sci	3	0	1	0	0	0	0	2	0	0	0	0	0	0	0	0
Mass Inst of Technology	485	49	27	36	41	205	41	0	0	7	48	2	0	7	0	22
New England Conserv of Music	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Northeastern Univ	68	8	3	0	8	20	5	6	0	6	9	0	2	0	1	0
Simmons College	5	0	0	0	0	0	0	0	0	0	2	0	0	0	0	3
Smith College	10	0	0	0	0	0	0	0	0	0	1	0	0	1	0	8
Springfield College	3	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1
Tufts Univ	70	3	6	0	2	7	23	0	1	8	10	0	5	3	0	2
Univ of Massachusetts-Amherst	281	6	14	3	23	32	27	7	8	29	20	5	13	24	63	7
Univ of Massachusetts-Boston	10	0	0	0	0	0	2	0	0	3	5	0	0	0	0	0
Univ of Massachusetts-Lowell	67	16	9	0	9	12	5	2	0	0	0	0	0	0	14	0
Univ of Massachussets-Worcester	7	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
Worcester Polytechnic Inst	12	2	0	0	1	9	0	0	0	0	0	0	0	0	0	0
MICHIGAN	1,447	61	78	22	78	273	163	60	44	123	109	24	26	107	185	94
Andrews Univ	26	0	0	0	1	0	1	0	0	5	0	0	0	6	9	4
Eastern Michigan Univ	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0
Michigan State Univ	417	16	23	4	24	47	61	4	41	36	28	1	12	24	52	44
Michigan Tech Univ	46	7	1	2	0	24	6	0	1	0	0	0	2	2	0	1
Oakland Univ	8	0	0	0	3	1	1	0	0	0	0	0	0	0	3	0
Univ of Detroit Mercy	18	0	0	0	0	0	0	0	0	18	0	0	0	0	0	0
Univ of Michigan	642	32	33	13	35	170	57	37	1	31	63	22	11	70	36	31
Wayne State Univ	232	4	21	0	10	31	37	19	1	18	16	1	1	5	60	8
Western Michigan Univ	54	2	0	3	5	0	0	0	0	15	2	0	0	0	21	6
MINNESOTA	862	16	48	9	35	106	99	57	48	54	40	20	12	69	186	63
Luther Seminary	5	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4
Mayo Graduate School	20	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0
Univ of Minnesota-Minneapolis	708	16	48	9	35	105	79	48	48	39	39	20	12	66	111	33
Univ of St Thomas	22	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0
Walden Univ	107	0	0	0	0	1	0	9	0	15	1	0	0	2	53	26

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APPENDIX TABLE A-7 Institutions Granting Doctorates, by Major Field, 1997

	1997 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sciences	Math and Computer Sciences	Engineering	Biosciences	Health Sciences	Agricultural Sci.	Psychology	Other Social Sciences	History	Eng. And Amer. Language and Lit.	Other Humanities	Education	Professional/Other/ Unknown Fields
MISSISSIPPI	332	4	18	4	6	23	23	5	28	40	4	8	7	7	110	45
Delta State Univ	4	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1
Jackson State Univ	9	0	0	3	0	0	0	0	0	0	0	0	0	0	5	1
Mississippi State Univ	112	0	4	0	4	16	12	1	28	2	3	3	0	1	29	9
Reformed Theological Seminary	7	0	0	0	0	0	0	0	0	0	1	0	0	2	0	4
Univ of Mississippi	97	4	3	0	1	7	2	2	0	13	0	3	3	1	38	20
Univ of Mississippi-Med Ctr	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
Univ of Southern Mississippi	98	0	11	1	1	0	4	2	0	25	0	2	4	3	35	10
MISSOURI	766	21	43	4	29	96	116	14	19	87	54	17	12	60	131	63
Concordia Seminary	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Midwest Baptist Theol Sem	15	0	0	0	0	0	0	0	0	0	0	0	0	4	0	11
St. Louis Univ	135	0	0	3	1	0	18	9	0	18	6	2	2	8	57	11
Univ of Missouri-Columbia	257	3	12	0	10	29	37	3	19	22	27	5	6	14	59	11
Univ of Missouri-Kansas City	91	0	4	0	2	0	2	1	0	29	1	1	0	18	9	24
Univ of Missouri-Rolla	60	4	6	0	4	46	0	0	0	0	0	0	0	0	0	0
Univ of Missouri-St Louis	29	2	7	0	0	0	4	0	0	7	3	0	0	0	6	0
Washington Univ	178	12	14	1	12	21	55	1	0	11	17	9	4	15	0	6
MONTANA	96	10	11	1	3	2	16	0	9	7	0	0	0	1	36	0
Montana State Univ	67	10	10	0	1	1	10	0	5	0	0	0	0	1	29	0
Univ of Montana	29	0	1	1	2	1	6	0	4	7	0	0	0	0	7	0
NEBRASKA	314	4	22	4	13	17	38	14	29	25	27	5	8	10	71	27
Creighton Univ	3	0	0	0	0	0	2	0	0	0	0	0	0	1	0	0
Univ of Nebraska-Lincoln	275	4	20	4	13	17	17	4	29	24	26	5	8	9	68	27
Univ of Nebraska-Med Center	32	0	2	0	0	0	19	10	0	1	0	0	0	0	0	0
Univ of Nebraska-Omaha	4	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0
NEVADA	44	3	0	9	1	3	5	1	0	0	3	0	4	1	14	0
Univ of Nevada-Las Vegas	25	1	0	0	1	2	5	0	0	0	2	0	1	0	13	0
Univ of Nevada-Reno	19	2	0	9	0	1	0	1	0	0	1	0	3	1	1	0
NEW HAMPSHIRE	105	10	6	7	9	15	28	1	1	12	6	4	0	1	5	0
Dartmouth College	45	7	4	3	4	6	15	1	0	5	0	0	0	0	0	0
Univ of New Hampshire	60	3	2	4	5	9	13	0	1	7	6	4	0	1	5	0
NEW JERSEY	903	49	47	27	67	142	128	7	17	57	78	37	30	117	48	52
Drew Univ	27	0	0	0	0	0	0	0	0	1	0	1	2	19	0	4
Fairleigh Dickinson Univ	16	0	0	0	0	0	0	0	0	15	0	0	0	0	0	1
New Jersey Inst of Technology	42	0	2	3	7	29	0	0	0	0	0	0	0	0	1	0
Princeton Theol Seminary	17	0	0	0	0	0	0	0	0	0	0	1	0	9	1	6
Princeton Univ	293	27	19	11	26	47	22	0	0	8	47	21	11	53	0	1
Rutgers St Univ-New Brunswick	391	17	16	13	27	52	77	5	17	23	27	14	17	35	35	16
Rutgers St Univ-Newark	29	0	2	0	1	0	10	1	0	1	4	0	0	0	0	10
Seton Hall Univ	35	0	7	0	0	0	0	0	0	7	0	0	0	0	11	10
Stevens Inst of Technology	32	5	1	0	6	14	0	0	0	2	0	0	0	1	0	3
Univ of Med & Dent of NJ	21	0	0	0	0	0	19	1	0	0	0	0	0	0	0	1
NEW MEXICO	228	20	11	5	7	32	24	3	7	14	17	3	5	15	55	10
New Mexico Inst of Mining & Tech	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
New Mexico State Univ	62	7	2	0	3	13	7	0	6	5	1	0	0	1	11	6
Univ of New Mexico	164	13	9	4	3	19	17	3	1	9	16	3	5	14	44	4
NEW YORK	3,616	149	146	65	189	410	496	71	62	346	388	88	125	426	345	310
Adelphi Univ	44	0	0	0	3	0	0	9	0	27	0	0	0	0	1	4
Albany Medical College	15	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0
Alfred Univ	8	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0
City U of NY-Grad Sch/U Ctr	312	7	13	3	19	16	46	3	0	49	63	4	19	53	1	16
Clarkson Univ	24	1	3	0	1	18	1	0	0	0	0	0	0	0	0	0
Columbia Univ	452	20	17	15	21	35	54	15	0	37	80	31	19	72	12	24
Columbia Univ-Teachers College	124	0	0	0	0	0	0	1	0	0	0	0	0	2	110	11
Cornell Univ	485	28	29	11	26	93	67	6	54	11	55	11	14	40	17	23
Cornell Univ Medical Campus	33	0	0	0	0	0	33	0	0	0	0	0	0	0	0	0
Fordham Univ	124	0	0	0	0	0	5	0	0	31	16	5	2	6	48	11
Hofstra Univ	37	0	0	0	0	0	0	0	0	20	0	0	0	0	16	1
Jewish Theol Sem of America	7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	6
The Juilliard School	7	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0
Long Island Univ-Brooklyn Campus	14	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0
Manhattan School of Music	12	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0
New School for Social Research	55	0	0	0	1	0	0	0	0	31	17	0	0	6	0	0
New York Medical College	8	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0
New York Univ	369	3	9	1	16	4	46	17	0	20	29	12	20	74	35	83
Pace Univ	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Polytechnic Univ	36	0	5	0	3	28	0	0	0	0	0	0	0	0	0	0
Rensselaer Polytechnic Inst	128	10	8	1	16	75	2	1	0	0	3	0	0	5	0	7
Rockefeller Univ	21	1	1	0	0	0	19	0	0	0	0	0	0	0	0	0

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109

APPENDIX TABLE A-7 Institutions Granting Doctorates, by Major Field, 1997

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NEW YORK (continued)																
St Johns Univ-Queens	37	0	0	0	0	0	6	1	0	20	0	5	0	0	4	1
State Univ of NY-Albany	135	5	1	3	11	1	8	2	0	17	26	0	4	13	27	17
State Univ of NY-Binghamton	88	0	2	4	11	13	5	0	0	8	27	3	7	6	1	1
State Univ of NY-Buffalo	316	8	18	4	13	58	42	10	0	22	21	5	18	33	53	11
State Univ of NY-Stony Brook	266	32	21	18	29	18	42	2	1	21	12	6	11	52	0	1
SUNY Coll-Environ Sci & Forestry	26	0	5	2	0	4	6	0	7	0	1	0	0	0	0	1
SUNY College of Optometry	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
SUNY-Hlth Sci Ctr-Brooklyn	12	0	0	0	0	0	12	0	0	0	0	0	0	0	0	0
SUNY-Hlth Sci Ctr-Syracuse	11	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
Syracuse Univ	162	5	0	1	8	18	3	1	0	8	19	2	3	9	12	73
Union College	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Union Theol Seminary	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Univ of Rochester	206	29	14	2	11	21	36	3	0	9	19	4	8	35	8	7
Yeshiva Univ	30	0	0	0	0	0	29	0	0	1	0	0	0	0	0	0
NORTH CAROLINA	1,082	21	52	23	39	151	241	48	38	60	98	20	38	78	139	36
Duke Univ	263	7	11	7	11	48	70	1	1	9	36	8	11	30	0	13
East Carolina Univ Sch of Med	11	0	0	0	0	0	6	0	0	0	0	0	0	0	3	2
North Carolina St U-Raleigh	312	6	6	7	12	97	47	3	37	9	18	0	0	0	68	2
U of N Carolina-Chapel Hill	388	6	34	9	16	6	100	39	0	28	43	12	22	33	22	18
U of N Carolina-Greensboro	88	0	0	0	0	0	1	5	0	14	1	0	5	15	46	1
Wake Forest Univ	20	2	1	0	0	0	17	0	0	0	0	0	0	0	0	0
NORTH DAKOTA	71	1	7	0	4	6	7	1	17	7	1	0	0	1	19	0
North Dakota State Univ	39	0	7	0	4	5	5	1	17	0	0	0	0	0	0	0
Univ of North Dakota	32	1	0	0	0	1	2	0	0	7	1	0	0	1	19	0
OHIO	1,937	75	132	15	64	310	292	66	26	173	110	34	48	111	333	148
Air Force Inst of Technology	34	9	0	0	2	22	0	0	0	0	0	0	0	0	1	0
Bowling Green State Univ	73	0	9	0	4	0	4	0	0	14	4	4	7	10	9	8
Case Western Reserve Univ	199	6	14	0	7	56	46	16	0	10	8	2	2	7	1	24
Cleveland State Univ	35	0	1	0	0	4	2	0	0	0	2	0	0	1	18	7
Hebrew Union College	3	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0
Kent State Univ	166	5	3	0	5	0	19	4	0	30	9	2	7	4	50	28
Medical College of Ohio-Toledo	27	0	0	0	0	0	26	1	0	0	0	0	0	0	0	0
Miami Univ	56	0	10	1	0	0	7	0	0	7	4	5	6	2	14	0
Ohio State Univ	708	29	37	11	35	92	115	30	26	44	62	14	17	51	103	42
Ohio Univ	116	11	6	0	5	4	10	1	0	21	0	2	1	5	34	16
Univ of Akron	104	4	33	0	0	26	3	0	0	15	5	0	0	0	18	0
Univ of Cincinnati	297	6	16	3	5	73	47	9	0	15	16	4	4	28	51	20
Univ of Dayton	30	1	0	0	1	16	2	0	0	0	0	0	0	0	10	0
Univ of Toledo	76	4	3	0	0	16	2	5	0	16	0	1	4	0	24	1
Wright State Univ	12	0	0	0	0	1	9	0	0	0	0	0	0	0	0	2
Youngstown State	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
OKLAHOMA	472	9	24	10	14	54	40	4	11	43	29	7	11	59	113	44
Oklahoma State Univ	238	5	9	3	2	17	17	0	11	21	10	5	6	37	75	20
Univ of Oklahoma	207	4	15	7	12	24	22	4	0	13	19	2	3	21	37	24
Univ of Tulsa	27	0	0	0	0	13	1	0	0	9	0	0	2	1	1	0
OREGON	428	20	23	19	22	47	69	22	29	22	37	7	13	23	59	16
Oregon Grad Inst of Sci & Tech	24	1	1	3	4	12	3	0	0	0	0	0	0	0	0	0
Oregon Health Sciences Univ	25	0	0	0	0	0	16	5	0	1	1	0	0	0	1	1
Oregon State Univ	179	8	16	9	10	27	27	10	29	2	9	1	0	1	24	6
Portland State Univ	34	1	1	2	0	8	4	0	0	0	7	0	0	0	9	2
Univ of Oregon	166	10	5	5	8	0	19	7	0	19	20	6	13	22	25	7
PENNSYLVANIA	2,313	56	98	29	116	431	255	72	10	156	194	60	66	196	374	200
Allegheny Univ. of Health Sciences	32	0	0	0	0	0	16	3	0	13	0	0	0	0	0	0
Bryn Mawr College	20	0	3	1	2	0	0	0	0	2	2	0	0	5	0	5
Carnegie Mellon Univ	196	5	4	1	40	83	11	1	0	6	11	9	1	5	0	19
Drexel Univ	63	4	3	3	2	34	3	0	0	5	0	0	0	0	0	9
Duquesne Univ	30	0	2	0	0	0	1	3	0	6	0	0	4	7	1	6
Indiana Univ of Pennsylvania	53	0	0	0	0	0	0	0	0	0	6	0	22	13	12	0
Lehigh Univ	107	3	12	2	7	43	6	0	0	10	2	1	5	0	14	2
Pennsylvania State Univ	542	13	31	17	21	160	44	12	10	26	43	5	6	28	92	34
Philadelphia Coll. of Pharmarcy & Sci	8	0	1	0	0	0	4	3	0	0	0	0	0	0	0	0
Temple Univ	307	2	3	0	4	4	32	5	0	54	26	10	10	32	94	31
Thomas Jefferson Univ	30	0	0	0	0	0	29	0	0	0	0	0	0	0	0	1
Univ of Pennsylvania	441	17	17	2	25	52	64	16	0	14	53	27	16	57	45	36
Univ of Pittsburgh	424	12	20	3	15	55	45	24	0	20	51	8	2	45	74	50
Villanova Univ	5	0	2	0	0	0	0	0	0	0	0	0	0	0	0	3
Westminster Theol Seminary	8	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
Widener Univ	47	0	0	0	0	0	0	5	0	0	0	0	0	0	42	0

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates.
Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-7 Institutions Granting Doctorates, by Major Field, 1997

	1997 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sciences	Math and Computer Sciences	Engineering	Biosciences	Health Sciences	Agricultural Sci.	Psychology	Other Social Sciences	History	Eng. And Amer. Language and Lit	Other Humanities	Education	Professional/Other/Unknown Fields
PUERTO RICO	99	0	5	1	0	1	4	0	0	46	0	5	0	8	29	0
Caribbean Ctr for Adv Studies	40	0	0	0	0	0	0	0	0	35	0	0	0	4	1	0
Inter Amer U PR-Metro Campus	14	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0
Univ of Puerto Rico - Rio Piedras	42	0	5	0	0	0	3	0	0	11	0	5	0	4	14	0
Univ of Puerto Rico-Mayaguez	3	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0
RHODE ISLAND	229	14	19	19	17	22	17	5	5	19	28	10	5	42	0	7
Brown Univ	148	12	12	6	14	10	13	1	0	8	26	8	1	37	0	0
Providence College	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Salve Regina Univ	4	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0
Univ of Rhode Island	75	2	7	13	3	12	4	4	5	11	2	0	4	1	0	7
SOUTH CAROLINA	406	10	26	11	17	38	53	29	16	21	22	8	17	27	88	23
Clemson University	99	7	6	1	4	24	13	0	16	0	2	0	0	0	18	8
Medical Univ of South Carolina	26	0	2	0	1	2	17	4	0	0	0	0	0	0	0	0
South Carolina State Univ	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0
Univ of South Carolina	274	3	18	10	12	12	23	25	0	21	20	8	17	27	63	15
SOUTH DAKOTA	94	0	2	2	0	3	6	0	9	7	7	0	0	1	56	1
S Dakota Sch of Mines & Tech	6	0	0	2	0	3	0	0	0	0	0	0	0	0	0	1
South Dakota State Univ	21	0	2	0	0	0	3	0	9	0	7	0	0	0	0	0
Univ of South Dakota	67	0	0	0	0	0	3	0	0	7	0	0	0	1	56	0
TENNESSEE	735	15	27	5	22	96	103	28	10	69	44	14	18	32	194	58
East Tennessee State Univ	26	0	0	0	0	0	2	0	0	0	0	0	0	0	18	6
Meharry Medical College	9	0	0	0	0	0	9	0	0	0	0	0	0	0	0	0
Mid-America Baptist Theol Sem	5	0	0	0	0	0	0	0	0	0	0	0	0	3	0	2
Middle Tennessee State Univ	10	0	2	0	0	0	0	0	0	0	3	0	1	0	4	0
Tennessee State Univ	25	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0
Tennessee Technological Univ	11	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0
Univ of Memphis	113	0	2	1	6	8	5	1	0	25	2	1	0	5	40	17
Univ of Tennessee-Knoxville	292	10	14	4	11	41	31	6	10	34	21	7	6	3	68	26
Univ of Tennessee-Memphis	30	0	1	0	0	0	16	12	0	0	0	0	0	0	0	1
Vanderbilt Univ	214	5	8	0	5	36	40	9	0	10	18	6	11	21	39	6
TEXAS	2,694	89	108	67	121	458	353	96	68	186	162	40	63	181	444	258
Baylor College of Medicine	48	0	0	0	0	0	47	1	0	0	0	0	0	0	0	0
Baylor Univ	31	1	4	2	2	0	1	0	0	1	0	0	0	3	17	0
Dallas Theological Seminary	7	0	0	0	0	0	0	0	0	0	0	0	0	1	0	6
Lamar Univ	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Rice Univ	116	13	15	1	18	24	8	0	0	8	10	3	7	9	0	0
St. Mary's Univ	10	0	0	0	0	0	0	0	0	4	1	0	0	0	1	4
Sam Houston State Univ	7	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0
Southern Methodist Univ	43	0	0	2	8	18	1	0	0	3	8	0	0	1	0	2
Southwestern Baptist Theol Sem	43	0	0	0	0	0	0	0	0	0	0	1	0	12	3	27
Stephen F Austin St Univ	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Texas A&M Univ-College Station	544	11	29	27	26	122	78	9	55	25	34	4	10	0	62	52
Texas A&M Univ-Commerce	44	0	0	0	0	0	0	0	0	5	0	0	0	0	39	0
Texas A&M Univ-Kingsville	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0
Texas Christian Univ	21	2	0	0	0	0	0	0	0	8	0	6	5	0	0	0
Texas Southern Univ	17	0	0	0	0	0	0	0	0	0	0	0	0	0	17	0
Texas Tech Univ	173	4	7	4	8	19	15	0	9	21	13	2	8	15	32	16
Texas Woman's Univ	78	0	0	0	0	0	6	23	1	18	2	0	2	5	14	7
Univ of Dallas	3	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0
Univ of Houston	188	4	12	1	10	37	11	0	0	10	9	6	3	4	61	20
Univ of North Texas	183	9	6	0	4	0	3	0	0	27	14	3	15	5	68	29
Univ of North Texas-Hlth Sci Ctr	7	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0
Univ of St. Thomas	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Univ of Texas-Arlington	96	1	2	1	9	38	1	0	0	3	2	1	1	5	1	31
Univ of Texas-Austin	787	36	30	17	32	193	46	29	1	39	54	12	11	113	119	55
Univ of Texas-Dallas	48	5	3	7	4	1	5	0	0	2	7	2	1	3	1	7
Univ of Texas-El Paso	6	0	0	3	0	2	0	0	0	1	0	0	0	0	0	0
U Tex-Hlth Sci Ctr-Houston	76	1	0	2	0	0	42	28	0	0	0	0	0	0	1	2
U Tex-Hlth Sci Ctr-San Antonio	24	1	0	0	0	0	19	4	0	0	0	0	0	0	0	0
U Tex-Med Branch-Galveston	27	0	0	0	0	0	23	2	0	0	0	0	0	2	0	0
U Tex-Southwestern Med Ctr	53	1	0	0	0	1	40	0	0	11	0	0	0	0	0	0
UTAH	385	6	18	12	7	44	39	11	6	43	20	3	0	6	44	126
Brigham Young Univ	89	2	5	2	1	10	5	0	0	29	4	1	0	2	28	0
Univ of Utah	222	3	9	8	5	21	19	11	0	4	9	2	0	4	4	123
Utah State Univ	74	1	4	2	1	13	15	0	6	10	7	0	0	0	12	3
VERMONT	62	0	3	0	1	4	15	1	2	17	0	0	0	6	13	0
Middlebury College	7	0	0	0	0	0	0	0	0	0	0	0	0	6	1	0
Univ of Vermont	55	0	3	0	1	4	15	1	2	17	0	0	0	0	12	0

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates
Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-7 Institutions Granting Doctorates, by Major Field, 1997

	1997 Total	Physics and Astronomy	Chemistry	Earth, Atmos., and Marine Sciences	Math and Computer Sciences	Engineering	Biosciences	Health Sciences	Agricultural Sci.	Psychology	Other Social Sciences	History	Eng. And Amer. Language and Lit.	Other Humanities	Education	Professional/Other/ Unknown Fields
College of William & Mary	56	10	2	8	3	4	2	0	1	1	0	4	0	4	17	0
George Mason Univ	126	1	1	3	25	10	3	9	0	23	17	0	0	0	29	5
Old Dominion Univ	61	1	0	3	8	16	7	0	0	12	11	0	0	0	1	2
Regent Univ	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Union Theol Seminary	5	0	0	0	0	0	0	0	0	0	0	0	0	4	0	1
Univ of Virginia	365	11	11	7	22	58	39	10	0	28	24	24	32	41	53	5
Virginia Commonwealth Univ & Med Coll	97	0	4	1	1	1	36	15	0	9	2	0	0	0	9	19
Virginia Polytech Inst & St Univ	400	9	18	5	21	121	27	3	30	23	10	0	0	1	103	29
WASHINGTON	737	21	38	33	43	94	127	32	28	35	52	11	31	57	93	42
Gonzaga Univ	21	0	0	0	0	0	0	0	0	0	0	0	0	0	20	1
Seattle Pacific Univ	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Seattle Univ	15	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0
Univ of Washington	526	17	27	27	34	71	92	30	13	22	38	9	22	56	36	32
Washington State Univ	173	4	11	6	9	23	35	2	15	13	14	2	9	1	20	9
WEST VIRGINIA	146	5	3	1	0	28	19	5	0	18	4	2	4	2	55	0
Marshall Univer	5	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0
West Virginia Univ	141	5	3	1	0	28	14	5	0	18	4	2	4	2	55	0
WISCONSIN	980	35	61	21	49	123	187	27	44	45	109	21	26	79	106	47
Marquette Univ	75	0	7	0	2	9	6	0	0	6	0	4	5	15	14	7
Medical College of Wisconsin	18	0	0	0	0	0	18	0	0	0	0	0	0	0	0	0
Univ of Wisconsin-Madison	786	30	49	20	43	105	155	21	44	31	93	17	11	57	80	30
Univ of Wisconsin-Milwaukee	101	5	5	1	4	9	8	6	0	8	16	0	10	7	12	10
WYOMING	79	5	10	8	7	5	8	1	8	8	6	1	0	0	12	0
Univ of Wyoming	79	5	10	8	7	5	8	1	8	8	6	1	0	0	12	0

NOTE: Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates.
Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE A-7 Institutions Granting Doctorates, by Major Field, 1997

Top 50 Doctorate-Granting Institutions, 1997

1.	University of Texas-Austin	787
2.	University of Wisconsin-Madison	786
3.	University of California-Berkeley	759
4.	University of Illinois-Urbana/Champaign	736
5.	Ohio State University	708
5.	University of Minnesota-Minneapolis	708
7.	University of California-Los Angeles	670
8.	University of Michigan	642
9.	Harvard University	593
10.	Stanford University	591
11.	Texas A&M University-College Station	544
12.	Pennsylvania State University	542
13.	Nova Southeastern University	539
14.	University of Washington	526
15.	Purdue University	509
16.	University of Maryland-College Park	505
17.	Cornell University	485
17.	Massachusetts Institute of Technology	485
19.	Columbia University	452
20.	University of Arizona	445
21.	University of Pennsylvania	441
22.	University of Florida	425
23.	University of Pittsburgh	424
24.	Michigan State University	417
25.	Virginia Polytech Inst & St University	400
26.	University of Colorado	399
27.	University of Southern California	396
28.	Indiana University-Bloomington	394
29.	Rutgers St University-New Brunswick	391
30.	U of N Carolina-Chapel Hill	388
31.	New York University	369
32.	University of Virginia	365
33.	University of Iowa	364
34.	University of Chicago	361
35.	Northwestern University	354
36.	University of California-Davis	349
37.	Johns Hopkins University	331
38.	University of Georgia	328
39.	Yale University	326
40.	State University of NY-Buffalo	316
41.	City U of NY-Grad Sch/U Ctr	312
41.	Florida State University	312
41.	North Carolina St U-Raleigh	312
44.	Temple University	307
45.	University of Cincinnati	297
46.	Princeton University	293
47.	University of Tennessee-Knoxville	292
48.	University of Massachusetts-Amherst	281
49.	Arizona State University	279
50.	University of Nebraska-Lincoln	275

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX B: Trend Tables, 1987-1997

Appendix B includes the following two tables:

B1: Number of Doctorate Recipients, by Subfield, 1987-1997
B2: Number of Doctorate Recipients, by Sex, Race/Ethnicity, and Citizenship, 1977, 1982, and 1987-1997

TABLE B-1: Table B-1 presents data for the most recent decade by subfield of doctorate. In general, the subfields correspond to the fields on the questionnaire's Specialties List located at the back of this report; some, however, do not appear on the current Specialties List because they are no longer included in the survey taxonomy. A dash (-) in a column indicates that the field was not on the Specialties List for that year.

Field groupings in this table may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates (SED); see inside the back cover for a description of field groupings as reported in these tables. The "general" field categories—for example, "chemistry, general"—include individuals who either received the doctorate in the general subject area or did not indicate a particular specialty field. The "other" field categories—for example, "chemistry, other"—include individuals whose specified doctoral discipline was not among the specialty fields.

The seven tables in Appendix A present additional information on the most recent cohort of Ph.D.s by field of doctorate.

TABLE B-2: Table B-2 displays, by sex and citizenship, data on the race/ethnicity of doctorate recipients for 1977, 1982 and the past decade. Table B-2 contains three panels, each displayed on a separate page. The first panel includes all doctorates; the others disaggregate the data by sex.

New follow-up procedures implemented in 1990 and later years have increased coverage of several variables, including citizenship and race/ethnicity. One result has been greater postsurvey adjustment to racial/ethnic data than in earlier years. (Note: The greatest adjustment was to the numbers of black Ph.D.s in 1990 and 1991—an increase of about 7.5 percent each year.)

The racial/ethnic question has undergone several revisions over the years. In 1977 it was modified to correspond to a standard question format recommended by the Federal Interagency Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys; an explanation of the effect of these charges is detailed on page 13 of *Summary Report 1977*. (Note: Changes in the OMB guidelines prompted the moving of persons having origins in the Indian subcontinent from the white category to the Asian category.) In 1980 the item was further revised in two ways: (1) the

Hispanic category was subdivided into Puerto Rican, Mexican American, and other Hispanic to provide more detail for users of the racial/ethnic data, and (2) respondents were asked to check only one racial category. (Before 1980 doctorate recipients could check more than one category to indicate their race.) The item was modified again 1982 to separate the questions on race and ethnicity. Since then respondents have been asked to first check one of four racial group categories (American Indian, Asian, black, or white) and then indicate whether or not they are Hispanic. In Table B-2, *Ph.D.s who reported Hispanic heritage, regardless of racial designation, are counted as Hispanic*. The remaining survey respondents are then counted in their respective racial groups. (Note: Doctorate recipients who checked the category "American Indian or Alaskan Native" are identified as American Indian in this report.)

Tables A-2 and A-4 in Appendix A present additional information on the most recent cohort of Ph.D.s by race/ethnicity.

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1987-1997

	Year of Doctorate										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
TOTAL ALL FIELDS	32,370	33,500	34,327	36,067	37,534	38,890	39,801	41,034	41,743	42,415	42,705*
PHYSICAL SCIENCES	5,030	5,309	5,455	5,859	6,280	6,502	6,496	6,822	6,808	6,675	6,574
MATHEMATICS	740	749	859	892	1,039	1,058	1,146	1,118	1,190	1,122	1,112
Applied Mathematics	131	142	158	185	193	213	188	206	211	230	241
Algebra	57	54	50	39	72	69	84	78	82	78	79
Analysis and Functional Analysis	86	76	103	90	132	105	105	107	99	100	103
Geometry	30	44	47	42	66	45	44	35	45	72	70
Logic	18	20	12	19	23	28	19	29	35	16	23
Number Theory	15	26	23	26	30	25	42	37	35	42	46
Mathematical Statistics	143	152	167	157	206	217	228	205	205	178	182
Topology	41	27	37	50	57	58	54	38	51	55	62
Computing Theory and Practice	14	12	12	12	19	12	18	16	14	18	14
Operations Research	22	29	22	29	16	22	37	26	36	21	20
Mathematics, General	137	134	177	191	180	209	276	269	305	233	143
Mathematics, Other	46	33	51	52	45	55	51	72	72	79	129
COMPUTER SCIENCE	450	515	612	705	800	869	880	903	997	921	889
Computer Science	384	442	519	612	720	791	825	833	913	837	812
Information Sciences and Systems	66	73	93	93	80	78	55	70	84	84	77
PHYSICS AND ASTRONOMY	1,237	1,302	1,274	1,393	1,411	1,537	1,544	1,692	1,652	1,677	1,576
Astronomy	46	66	49	52	50	55	76	66	89	84	72
Astrophysics	54	64	64	76	75	79	69	78	84	108	125
Acoustics	17	16	15	21	13	18	27	20	18	19	19
Chemical, and Atomic/Molecular	79	77	74	87	76	85	95	140	110	129	105
Electron	6	2	4	2.	1	-	-	-	-	-	-
Elementary Particle	159	174	135	163	182	153	170	176	183	175	170
Fluids	21	17	14	17	14	17	19	12	18	21	24
Nuclear	74	88	81	73	66	86	82	90	91	87	105
Optics	50	65	78	76	85	94	96	104	98	129	123
Plasma and High-Temperature	72	65	61	42	58	65	62	79	46	48	39
Polymer	15	20	7	11	17	17	29	29	23	33	19
Solid State and Low-Temperature	287	252	296	306	372	408	336	388	371	364	327
Physics, General	238	271	269	323	247	297	340	343	355	324	246
Physics, Other	119	125	127	144	155	163	143	167	166	156	202
CHEMISTRY	1,975	2,015	1,970	2,100	2,194	2,214	2,137	2,257	2,162	2,148	2,115
Analytical	314	301	289	293	304	304	286	334	317	346	351
Inorganic	240	250	256	242	260	268	237	262	258	249	276
Nuclear	13	7	6	13	14	7	8	10	5	5	8
Organic	511	531	511	452	538	512	518	544	483	506	567
Medicinal/Pharmaceutical	65	73	64	48	83	69	99	102	96	96	107
Physical	302	318	310	325	364	398	336	334	338	300	333
Polymer	96	81	78	81	111	83	107	117	116	121	110
Theoretical	46	50	46	55	45	59	53	52	40	57	48
Chemistry, General	297	310	312	524	400	449	431	447	458	396	231
Chemistry, Other	91	94	98	67	75	65	62	55	51	72	84
EARTH, ATMOS., & MARINE SCI.	628	728	740	769	836	824	789	852	807	807	882
Atmospheric Physics and Chem.	24	19	15	18	20	36	13	27	27	22	43
Atmospheric Dynamics	17	25	16	20	21	23	23	27	16	21	25
Meteorology	17	35	27	20	31	28	34	32	25	35	28
Atmos. Sci./Meteorology, General	16	14	14	23	26	27	22	37	44	33	36
Atmos.Sci./Meteorology, Other	13	10	15	2	10	6	7	6	18	14	15
Geology	114	144	165	166	192	166	197	194	186	162	162
Geochemistry	31	46	39	56	64	62	50	59	42	49	50
Geophysics and Seismology	75	83	87	91	117	108	101	106	93	101	105
Paleontology	21	24	17	21	24	25	21	17	20	14	23
Mineralogy, Petrology	24	19	36	26	36	29	9	21	19	23	18
Stratigraphy, Sedimentation	22	30	24	25	29	23	28	27	16	12	23
Geomorphology and Glacial Geology	18	9	10	14	18	12	16	13	11	11	26
Applied Geology	5	7	6	6	1	0	0	0	0	0	-
Geological & Related Sci., General	18	8	19	31	30	18	15	18	21	27	15
Geological & Related Sci., Other	29	31	28	28	33	31	17	24	22	22	17
Environmental Science	29	58	68	50	35	57	68	61	81	83	92
Hydrology and Water Resources	18	24	24	13	16	29	25	30	24	31	43
Oceanography	73	81	87	89	85	82	98	91	83	107	112
Marine Sciences	38	28	26	39	27	32	27	34	32	27	29
Misc. Physical Sciences, Other	26	33	17	31	21	30	18	28	27	13	20
ENGINEERING	3,712	4,187	4,543	4,894	5,214	5,438	5,698	5,822	6,008	6,305	6,052
Aerospace, Aeronautic. & Astronautic.	142	150	178	192	207	234	228	230	252	287	272
Agricultural	74	70	102	101	83	84	86	89	73	104	78
Bioengineering and Biomedical	75	114	115	129	149	147	171	173	189	220	205
Ceramic Sciences	42	30	35	43	58	42	42	39	39	41	40
Chemical	527	624	625	561	621	607	624	630	602	681	659
Civil	441	488	498	505	509	540	563	602	572	599	591
Communications	26	24	25	35	21	30	22	33	29	32	32
Computer	62	100	117	131	178	175	167	202	189	208	219
Electrical, Electronics	691	886	995	1,110	1,206	1,278	1,354	1,438	1,513	1,500	1,444
Engineering Mechanics	113	105	110	111	113	132	128	132	108	105	95
Engineering Physics	13	9	16	16	23	25	21	17	17	37	24
Engineering Science	26	32	27	37	42	51	55	46	56	52	46

* Total includes 651 respondents with missing data for doctoral field.

NOTE: Dash (-) indicates that the field was not on the questionnaire's Specialties List that year. Field groupings may differ from those in reports published by federal sponsors of the Survey of Earned Doctorates.

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1987-1997

	Year of Doctorate										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Environmental Health Engineering	36	43	40	48	66	54	61	82	84	98	62
Industrial/Manufacturing	120	127	162	151	165	196	236	228	284	258	241
Materials Science	238	252	257	307	361	365	416	433	476	470	477
Mechanical	544	610	650	773	762	855	902	883	917	947	915
Metallurgical	112	92	88	90	70	78	77	67	73	61	56
Mining and Mineral	27	17	33	39	38	26	24	23	19	31	33
Naval Architecture, Marine Eng.	7	9	9	8	5	-	-	-	-	-	-
Nuclear	84	104	86	114	107	120	108	85	105	113	99
Ocean	24	21	20	17	21	21	24	29	21	26	34
Operations Research	51	44	68	46	76	56	56	47	48	74	75
Petroleum	23	33	29	49	28	54	52	42	48	52	51
Polymer/Plastics	34	28	58	48	42	64	61	53	58	65	54
Systems	47	44	30	51	48	37	57	51	47	47	49
Engineering, General	54	49	61	75	78	64	47	39	60	60	50
Engineering, Other	79	82	109	107	137	103	116	129	129	137	151
LIFE SCIENCES	5,754	6,164	6,342	6,605	6,933	7,115	7,395	7,739	7,918	8,255	8,213
BIOLOGICAL SCIENCES	3,839	4,111	4,116	4,328	4,650	4,799	5,092	5,203	5,376	5,723	5,717
Biochemistry	573	612	669	678	765	715	846	804	824	794	821
Biomedical Sciences	-	-	-	-	-	-	-	-	93	140	158
Biophysics	86	97	87	103	100	125	103	123	155	142	148
Biotechnology Research	-	-	-	-	-	-	8	14	4	6	11
Bacteriology	13	7	11	15	11	13	14	18	13	16	13
Plant Genetics	26	26	18	31	23	33	41	30	35	41	29
Plant Pathology	33	30	22	37	50	32	41	40	32	38	33
Plant Physiology	62	74	47	51	65	68	48	70	55	73	46
Botany, Other	106	112	117	104	105	107	105	117	102	105	91
Anatomy	92	88	80	70	77	75	76	66	64	47	50
Biometrics and Biostatistics	37	47	46	47	59	63	74	72	67	81	85
Cell Biology	127	118	133	145	149	188	231	237	236	233	249
Ecology	158	155	161	166	189	180	177	201	203	245	250
Developmental Biology/Embryology	6	7	10	22	37	48	57	62	64	96	114
Endocrinology	19	21	21	24	33	27	16	26	20	24	17
Entomology	123	133	139	147	138	139	114	123	121	136	122
Biological Immunology	136	179	152	153	177	181	169	161	190	238	211
Molecular Biology	303	364	413	413	481	527	582	598	617	651	768
Microbiology	301	333	340	335	372	377	433	423	426	444	407
Neuroscience	153	163	181	192	238	238	276	284	309	404	432
Nutritional Sciences	141	127	128	118	106	132	134	147	136	142	123
Parasitology	16	20	20	13	20	17	17	22	14	22	17
Toxicology	115	108	111	91	86	105	100	120	126	138	180
Human and Animal Genetics	113	118	112	153	160	142	172	203	202	212	213
Human and Animal Pathology	127	112	105	101	122	114	130	128	109	135	106
Human and Animal Pharmacology	234	252	242	244	266	279	274	259	278	316	296
Human and Animal Physiology	248	225	272	278	272	266	271	289	262	275	225
Zoology, Other	139	167	132	122	125	134	114	117	145	100	96
Biological Sciences, General	229	256	231	333	278	315	305	288	348	291	193
Biological Sciences, Other	123	160	116	142	146	159	164	161	126	138	213
HEALTH SCIENCES	800	882	974	956	1,041	1,112	1,197	1,296	1,330	1,324	1,394
Speech-Lang. Pathology & Audiology	107	93	91	93	90	82	98	95	106	94	83
Environmental Health	29	52	35	38	38	44	38	51	51	58	67
Health Systems/Services Admin.	-	-	-	-	-	-	35	53	62	60	66
Public Health	96	121	129	123	132	157	153	142	152	156	139
Epidemiology	86	97	107	102	115	108	120	168	153	149	152
Exercise Physiology/Sci., Kinesiology	-	-	-	-	-	-	-	87	118	105	103
Nursing	218	247	308	261	325	338	373	336	354	354	413
Pharmacy	133	95	111	116	115	160	146	148	144	145	142
Rehabilitation/Therapeutic Services	-	-	-	-	17	25	36	43	20	26	28
Veterinary Medicine	31	48	48	70	56	63	61	56	55	65	47
Health Sciences, General	12	29	19	36	28	30	38	41	35	22	45
Health Sciences, Other	88	100	126	117	125	105	99	76	80	90	109
AGRICULTURAL SCIENCES	1,115	1,171	1,252	1,321	1,242	1,204	1,106	1,240	1,212	1,208	1,102
Agricultural Economics	139	156	164	145	168	141	137	162	173	169	135
Agricultural Business & Management	-	0	2	2	1	0	1	0	3	2	1
Animal Breeding and Genetics	23	27	23	22	18	23	18	17	19	12	24
Animal Nutrition	82	54	67	54	57	41	52	58	50	54	55
Dairy Science	-	12	16	20	19	14	11	11	14	9	14
Poultry Science	-	10	11	17	13	22	16	21	11	12	9
Fisheries Science and Management	32	42	34	42	39	26	38	48	49	46	43
Animal Sciences, Other	76	86	95	90	92	97	74	86	85	90	59
Agronomy and Crop Science	143	141	140	143	117	123	104	143	114	110	76
Plant Breeding and Genetics	70	83	64	87	69	82	68	81	72	63	67
Plant Pathology	76	46	63	64	90	63	58	55	52	90	64
Plant Protection-Pest Management	-	1	6	4	2	-	-	-	-	-	-
Plant Sciences, Other	20	23	15	23	17	29	28	24	30	21	19
Food Sciences	131	16	1	0	0	0	0	0	-	-	-
Food Distribution	-	0	0	0	0	0	0	1	-	-	-
Food Engineering	-	6	11	10	12	14	9	16	7	7	11
Food Sciences, Other	-	119	147	141	137	151	141	152	135	142	172
Soil Sciences	74	18	-	-	-	-	-	-	-	-	-
Soil Chemistry/Microbiology	-	33	28	27	24	24	26	21	27	29	32
Soil Sciences, Other	-	62	75	91	78	63	59	69	72	78	55
Horticulture Science	71	61	75	101	78	65	62	65	67	73	44

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1987-1997

	Year of Doctorate										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Wildlife Management	23	3	-	-	-	-	-	-	-	-	-
Forestry Science	100	15	-	-	-	-	-	-	-	-	-
Forest Biology	-	21	22	27	17	29	18	20	24	19	22
Forest Engineering	-	3	1	2	2	2	3	0	4	0	13
Forest Management	-	18	21	14	22	16	17	17	20	22	21
Wood Sci. & Pulp/Paper Tech.	-	7	16	16	16	21	20	26	26	18	25
Conservation/Renewable Nat. Res.	-	7	12	16	19	9	13	21	24	13	17
Forestry and Related Sci., Other	-	35	57	62	45	62	55	59	71	56	52
Wildlife/Range Management	-	36	52	58	59	55	54	52	50	64	48
Agricultural Sciences, General	5	9	7	5	3	9	10	4	6	5	8
Agricultural Sciences, Other	50	21	27	38	28	23	14	11	7	4	16
SOCIAL SCIENCES (INCL. PSYCH.)	5,790	5,781	5,961	6,093	6,152	6,216	6,545	6,613	6,635	6,814	6,917
Anthropology	352	325	325	324	341	320	342	384	375	396	430
Area Studies	17	16	17	22	24	33	36	34	27	28	10
Criminology	29	43	32	42	35	37	39	41	44	60	50
Demography/Population Studies	26	19	22	20	28	17	22	23	15	11	24
Economics	796	825	872	836	861	885	906	913	952	979	982
Econometrics	25	27	26	26	24	25	24	26	27	29	29
Geography	111	129	105	131	108	111	137	146	150	165	145
International Relations/Affairs	82	77	94	97	88	76	102	112	73	99	84
Political Science and Government	404	392	430	462	434	513	507	589	600	621	654
Public Policy Analysis	83	73	79	87	111	107	98	94	93	104	128
Sociology	423	449	436	428	465	495	513	525	540	516	571
Statistics	49	47	69	69	31	29	48	46	48	48	56
Urban Affairs/Studies	72	86	62	67	90	86	123	132	103	106	91
Social Sciences, General	30	28	26	23	36	33	32	21	35	26	20
Social Sciences, Other	118	171	158	178	226	186	196	148	124	135	154
PSYCHOLOGY	3,173	3,074	3,208	3,281	3,250	3,263	3,420	3,250	3,279	3,340	3,366
Clinical	1,214	1,095	1,259	1,337	1,305	1,309	1,373	1,285	1,291	1,325	1,261
Cognitive and Psycholinguistics	80	83	79	76	94	101	104	129	104	128	162
Comparative	9	7	8	8	7	2	5	8	4	3	6
Counseling	486	482	501	466	497	507	488	497	470	464	477
Developmental and Child	200	176	148	159	155	170	202	179	152	188	211
Human/Individual & Family Develop.	-	-	-	-	-	-	-	129	150	151	123
Experimental	146	135	146	143	142	154	143	139	151	128	140
Educational	89	103	105	98	110	91	91	69	74	92	60
Family and Marriage Counseling	-	-	-	-	-	-	-	-	57	52	61
Industrial and Organizational	107	118	104	126	142	138	159	137	155	162	184
Personality	25	18	28	20	13	17	22	19	16	24	25
Physiological/Psychobiology	69	85	62	46	45	55	85	93	92	80	77
Psychometrics	9	11	6	8	9	5	9	5	10	11	11
Quantitative	13	12	11	15	7	10	16	17	13	19	17
School	93	115	107	82	82	88	95	84	91	82	84
Social	133	140	128	145	147	139	125	153	155	170	179
Psychology, General	343	368	364	371	324	295	306	280	306	279	286
Psychology, Other	157	126	152	181	171	182	197	156	138	133	125
HUMANITIES	3,500	3,555	3,552	3,822	4,099	4,444	4,482	4,744	5,061	5,116	5,387
History, American	198	209	206	211	251	277	269	310	344	355	371
History, Asian	-	-	-	-	-	-	-	-	43	54	54
History, European	121	127	107	151	127	176	162	180	185	187	245
History/Philosophy of Sci. & Tech.	25	22	20	26	27	28	37	27	41	37	34
History, General	94	103	85	111	121	102	116	140	148	101	79
History, Other	148	142	120	113	137	141	142	144	128	123	171
Classics	55	56	51	58	55	58	61	84	62	72	53
Comparative Literature	121	139	103	97	150	163	153	163	191	164	181
Linguistics	199	166	188	167	227	266	214	221	201	230	243
Speech and Rhetorical Studies	37	37	35	38	86	98	111	142	139	155	132
Letters, General	25	16	13	19	17	18	18	22	43	28	23
Letters, Other	39	43	60	52	44	38	37	25	34	61	60
American Studies	75	70	76	72	92	81	101	88	94	115	80
Archeology	31	23	26	22	33	33	38	34	35	21	34
Art History/Criticism/Conservation	143	134	145	135	125	154	158	182	181	176	188
Music	499	504	521	572	587	641	613	685	713	699	728
Philosophy	233	222	270	243	285	279	274	302	298	369	458
Religion	182	217	215	219	187	231	257	252	248	317	295
Drama/Theater Arts	82	92	79	106	91	95	91	102	80	103	115
LANGUAGE AND LITERATURE	1,112	1,147	1,152	1,308	1,350	1,465	1,524	1,537	1,718	1,618	1,733
American	190	186	192	229	253	291	293	296	327	314	405
English	478	531	528	567	599	612	655	647	752	699	675
French	103	101	106	123	100	124	137	129	151	142	150
German	77	76	73	78	71	96	105	67	93	88	83
Italian	21	14	20	25	32	20	19	32	35	24	23
Spanish	133	137	134	173	173	179	179	212	209	196	249
Russian	19	13	13	19	25	28	28	38	28	37	39
Slavic	5	5	7	7	14	15	13	10	16	11	9
Chinese	13	12	9	16	19	20	21	25	20	29	23
Japanese	9	6	13	9	7	12	11	12	7	10	19
Hebrew	13	12	10	14	11	20	15	10	11	12	8
Arabic	8	14	6	7	4	12	10	4	8	6	4
Other Language and Literature	43	40	41	41	42	36	38	55	61	50	46

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-1 Number of Doctorate Recipients, by Subfield, 1987-1997

	Year of Doctorate										
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Humanities, General	23	25	19	28	29	21	30	32	25	39	23
Humanities, Other	58	61	61	74	78	79	76	72	110	92	87
EDUCATION	6,454	6,362	6,281	6,510	6,454	6,677	6,689	6,708	6,649	6,772	6,497
Curriculum and Instruction	762	815	841	839	807	900	856	819	896	896	904
Educational Admin. and Supervision	1,686	1,749	1,633	1,663	1,428	1,290	1,340	1,207	1,086	1,170	1,020
Educational Leadership	1	0	0	1	485	694	783	792	889	989	1,036
Educ./Instruct. Media Design	68	67	76	55	73	62	96	111	121	107	92
Educ. Stat./Research Methods	73	51	59	59	80	61	64	68	63	76	58
Educ.Assess., Test., & Meas.	37	55	42	40	32	45	23	28	19	32	29
Educational Psychology	320	323	301	323	323	346	290	311	297	309	356
School Psychology	95	98	85	87	90	88	86	97	71	114	115
Social/Phil. Found. of Educ.	114	122	110	86	109	101	109	140	130	125	135
Special Education	248	257	259	225	226	260	277	241	254	278	263
Counseling Educ./Couns. & Guidance	315	325	264	301	270	259	288	284	268	277	203
Higher Educ./ Evaluation & Research	570	399	373	424	344	381	357	428	457	481	509
Pre-elementary/Early Childhood	73	83	63	42	85	98	97	91	70	81	42
Elementary Education	105	93	99	110	73	73	65	71	61	46	54
Junior High Education	1	1	-	-	-	-	-	-	-	-	-
Secondary Education	65	67	53	56	40	28	33	24	24	34	25
Adult and Continuing Education	203	229	236	211	210	208	233	215	235	210	161
TEACHING FIELDS	1,065	989	970	922	973	1,008	943	960	924	863	894
Agricultural Education	39	32	35	38	49	43	54	52	35	32	38
Art Education	52	42	39	44	28	46	38	33	39	41	29
Business Education	36	44	40	34	32	16	27	25	21	20	22
English Education	72	57	51	52	58	61	53	56	60	57	60
Foreign Languages Education	37	53	33	31	46	50	48	54	60	44	45
Health Education	91	86	100	95	78	98	83	97	99	90	59
Home Economics Education	17	17	19	10	21	12	14	11	15	13	13
Technical/Industrial Arts Education	24	11	17	17	13	11	16	20	15	11	19
Mathematics Education	74	56	69	65	73	62	69	74	92	100	88
Music Education	109	76	97	78	96	96	80	89	96	91	98
Nursing Education	36	34	29	24	18	29	19	24	18	23	22
Physical Education and Coaching	192	184	176	191	185	167	161	139	104	101	108
Reading Education	94	74	95	82	102	121	95	97	85	66	68
Science Education	63	67	48	72	72	73	73	85	73	96	73
Social Science Education	17	23	13	11	19	19	9	10	14	12	27
Speech Education	5	5	1	5	1	-	-	-	-	-	-
Technical Education	-	13	28	15	25	35	21	30	20	24	32
Trade and Industrial Education	68	67	47	18	17	11	24	24	13	12	16
Teacher Ed./Spec. Acad. & Voc., Other	39	48	33	40	40	58	59	40	65	30	77
Education, General	368	358	414	535	428	443	411	484	429	353	317
Education, Other	285	281	403	531	378	332	338	337	355	331	284
PROFESSIONAL/OTHER FIELDS	2,130	2,142	2,193	2,284	2,402	2,498	2,496	2,586	2,664	2,478	3,065
BUSINESS AND MANAGEMENT	981	1,033	1,067	1,036	1,163	1,248	1,281	1,283	1,327	1,276	1,221
Accounting	160	175	186	172	172	180	183	179	168	156	149
Banking/Financial Support Services	156	148	151	134	172	172	170	134	163	114	69
Business Admin. and Management	225	265	245	277	204	241	324	319	340	393	408
Business/Managerial Economics	26	27	27	21	19	21	33	40	37	38	48
International Business	-	-	-	-	-	-	-	22	23	36	39
Mgmt. Info. Sys./Business Data Proc.	-	-	-	-	72	103	102	117	111	94	100
Marketing Management and Research	113	126	130	120	134	139	166	167	153	153	151
Business Statistics	8	6	15	10	5	-	-	-	-	-	-
Operations Research	64	50	52	46	58	67	63	54	59	64	44
Organizational Behavior	66	74	95	64	72	81	73	102	100	108	122
Bus. Mgmt./Admin. Serv., General	75	75	57	70	123	112	87	87	92	67	27
Bus. Mgmt./Admin. Serv., Other	88	87	109	122	132	132	80	62	81	53	64
COMMUNICATIONS	309	247	306	323	332	330	321	371	380	389	325
Communications Research	90	72	85	87	72	45	33	40	40	60	51
Journalism	7	21	15	21	7	-	-	-	-	-	-
Mass Communications	-	-	-	-	68	85	117	156	121	137	114
Radio and Television	16	12	29	17	6	-	-	-	-	-	-
Communication Theory	-	-	-	-	25	47	41	45	53	37	40
Communications, General	102	70	79	86	70	76	69	68	77	81	71
Communications, Other	94	72	98	112	84	77	61	62	89	74	49
OTHER PROFESSIONAL FIELDS	778	812	766	858	836	880	867	891	931	774	756
Architectural Environmental Design	33	31	43	41	67	60	54	67	55	61	65
Home Economics	67	58	55	74	29	58	57	31	31	28	36
Law	29	33	26	34	23	20	29	33	37	26	26
Library Science	48	57	60	42	52	51	70	42	47	49	41
Parks/Recreation/Leisure/Fitness	-	-	-	-	-	-	44	37	54	29	20
Public Administration	78	92	97	88	107	108	117	135	128	104	95
Social Work	214	241	206	246	240	248	237	272	303	256	237
Theology/Religious Education	254	251	232	271	273	292	243	262	273	213	176
Professional Fields, General	1	2	0	3	3	1	1	1	1	2	4
Professional Fields, Other	54	47	47	59	42	42	15	11	2	6	56
OTHER/UNKNOWN FIELDS	62	50	54	67	71	40	27	41	26	39	763

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-2a Number of Doctorate Recipients, by Sex, Race/Ethnicity, and Citizenship, 1977, 1982, 1987-1997 (Total All Doctorates)

	Year of Doctorate												
	1977	1982	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
TOTAL MEN AND WOMEN	31,716	31,111	32,370	33,500	34,327	36,067	37,534	38,890	39,801	41,034	41,743	42,415	42,705*
U.S. Citizens	26,119	24,394	22,984	23,290	23,401	24,905	25,573	26,010	26,449	27,147	27,740	27,741	27,668
Permanent Visas	1368	1228	1,578	1,622	1,626	1,698	1,857	1,980	2,259	3,747	4,319	3,765	2,915
Temporary Visas	3448	4204	5,612	6,195	6,648	8,093	9,311	9,953	9,932	9,406	8,810	9,610	8,475
Unknown Citizenship	781	1285	2,196	2,393	2,652	1,371	793	947	1,161	734	874	1,299	3,647
Total Known Race/Ethnicity	29,476	29,089	29,229	30,354	30,955	33,878	35,780	37,193	38,284	39,834	40,330	40,636	38,809
U.S. Citizens	25,019	23,795	22,514	22,907	23,025	24,531	25,085	25,657	26,217	26,893	27,437	27,398	26,861
Permanent Visas	1,291	1,190	1,509	1,545	1,564	1,637	1,796	1,906	2,225	3,699	4,278	3,733	2,858
Temporary Visas	3,053	3,,954	5,144	5,840	6,297	7,557	8,788	9,535	9,675	9,114	8,544	9,363	8,255
Unknown Citizenship	113	150	62	62	69	153	111	95	167	128	71	142	835
American Indians	70	77	116	94	94	98	132	152	121	146	149	189	166
U.S. Citizens	65	77	115	94	94	97	130	149	120	143	149	186	149
Permanent Visas★	1	0	0	0	0	0	2	0	0	0	0	1	2
Temporary Visas★	4	0	1	0	0	1	0	2	1	3	0	2	8
Unknown Citizenship	0	0	0	0	0	0	0	1	0	0	0	0	7
Asians	2,056	2,904	4,129	4,780	5,192	6,293	7,528	8,290	8,671	9,367	9,708	9,821	9,017
U.S. Citizens	339	452	543	614	633	641	789	848	891	950	1,140	1,091	1,328
Permanent Visas	571	552	625	621	635	665	742	916	1,126	2,596	3,169	2,606	1,812
Temporary Visas	1,118	1,829	2,935	3,518	3,907	4,931	5,949	6,505	6,604	5,799	5,378	6,093	5,476
Unknown Citizenship	28	71	26	27	17	56	48	21	50	22	21	31	401
Blacks	1,450	1,527	1,221	1,267	1,247	1,354	1,466	1,434	1,615	1,683	1,825	1,837	1,774
U.S. Citizens	1,113	1,048	771	818	822	901	1,010	971	1,111	1,101	1,309	1,315	1,335
Permanent Visas	78	96	139	152	141	149	156	145	169	178	168	142	141
Temporary Visas	247	373	305	291	273	291	293	311	322	389	337	364	250
Unknown Citizenship	12	10	6	6	11	13	7	7	13	15	11	16	48
Hispanics	736	921	1,054	1,048	1,063	1,228	1,319	1,402	1,431	1,534	1,541	1,623	1,676
U.S. Citizens	437	538	617	595	582	721	731	778	834	884	919	950	1,028
Permanent Visas	52	79	91	98	112	116	136	131	139	146	142	155	135
Temporary Visas	236	294	338	349	363	386	446	482	454	502	472	512	442
Unknown Citizenship	11	10	8	6	6	5	6	11	4	2	8	6	71
Whites	25,164	23,660	22,709	23,165	23,359	24,905	25,335	25,915	26,446	27,104	27,107	27,166	26,176
U.S. Citizens	23,065	21,680	20,468	20,786	20,894	22,171	22,425	22,911	23,261	23,815	23,920	23,856	23,021
Permanent Visas	589	463	654	674	676	707	760	714	791	779	799	829	768
Temporary Visas	1448	1458	1,565	1,682	1,754	1,948	2,100	2,235	2,294	2,421	2,357	2,392	2,079
Unknown Citizenship	62	59	22	23	35	79	50	55	100	89	31	89	308
Unknown Race/Ethnicity	2,240	2,022	3,141	3,146	3,372	2,189	1,754	1,697	1,517	1,200	1,413	1,779	3,896
U.S. Citizens	1,100	599	470	383	376	374	488	353	232	254	303	343	807
Permanent Visas	77	38	69	77	62	61	61	74	34	48	41	32	57
Temporary Visas	395	250	468	355	351	536	523	418	257	292	266	247	220
Unknown Citizenship	668	1135	2,134	2,331	2,583	1,218	682	852	994	606	803	1,157	2,812

★ In most cases, non-U.S. American Indians are citizens of Canada or of a Latin American country.

* Total includes 384 individuals who did not report sex data.

Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-2b Numbers of Doctorate Recipients, by sex, Race/Ethnicity, and Citizenship, 1977, 1982, 1987-1997 (Men)

	Year of Doctorate												
	1977	1982	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
TOTAL MEN	23,858	21,018	20,938	21,681	21,814	22,961	23,661	24,454	24,679	25,215	25,329	25,470	25,383
U.S. Citizens	19,155	15,563	13,574	13,724	13,396	14,165	14,388	14,519	14,517	14,735	14,967	14,700	14,816
Permanent Visas	1,106	915	1,117	1,164	1,139	1,190	1,224	1,293	1,471	2,637	2,909	2,483	1,825
Temporary Visas	3,009	3,621	4,722	5,134	5,444	6,632	7,517	7,963	7,863	7,330	6,858	7,395	6,464
Unknown Citizenship	588	919	1,525	1,659	1,835	974	532	679	828	513	595	892	2,278
Total Known Race/Ethnicity	22,092	19,540	18,676	19,410	19,404	21,339	22,363	23,177	23,548	24,334	24,308	24,233	22,950
U.S. Citizens	18,307	15,144	13,250	13,448	13,117	13,899	14,032	14,261	14,345	14,566	14,754	14,473	14,304
Permanent Visas	1,040	886	1,064	1,097	1,094	1,150	1,177	1,237	1,446	2,603	2,885	2,460	1,791
Temporary Visas	2,659	3,396	4,314	4,822	5,143	6,174	7,080	7,615	7,654	7,101	6,634	7,205	6,292
Unknown Citizenship	86	114	48	43	50	116	74	64	103	64	35	95	563
American Indians	47	44	63	52	49	52	74	82	61	74	82	103	78
U.S. Citizens	43	44	62	52	49	52	74	82	60	71	82	102	68
Permanent Visas★	0	0	0	0	0	0	0	0	0	0	0	0	2
Temporary Visas★	4	0	1	0	0	0	0	0	1	3	0	1	5
Unknown Citizenship	0	0	0	0	0	0	0	0	0	0	0	0	3
Asians	1,716	2,355	3,350	3,845	4,163	5,031	5,880	6,428	6,617	7,070	7,112	7,205	6,432
U.S. Citizens	251	281	369	414	446	427	483	531	553	591	670	614	759
Permanent Visas	488	444	455	456	459	482	489	605	734	1,878	2,199	1,784	1,142
Temporary Visas	955	1,567	2,506	2,957	3,245	4,077	4,872	5,274	5,292	4,582	4,228	4,783	4,244
Unknown Citizenship	22	63	20	18	13	45	36	18	38	19	15	24	287
Blacks	992	912	702	699	685	733	788	771	842	891	881	933	864
U.S. Citizens	682	484	318	317	328	351	421	396	441	411	490	535	527
Permanent Visas	70	81	118	126	125	128	131	123	138	142	125	106	109
Temporary Visas	234	340	261	251	222	243	232	246	252	330	261	286	194
Unknown Citizenship	6	7	5	5	10	11	4	6	11	8	5	6	34
Hispanics	580	651	677	678	662	760	806	860	875	866	911	931	971
U.S. Citizens	320	345	332	321	307	380	370	410	423	438	460	478	520
Permanent Visas	36	52	50	64	69	69	88	72	94	80	79	86	82
Temporary Visas	214	247	288	288	283	309	344	371	357	346	369	363	320
Unknown Citizenship	10	7	7	5	3	2	4	7	1	2	3	4	49
Whites	18,757	15,578	13,884	14,136	13,845	14,763	14,815	15,036	15,153	15,433	15,322	15,061	14,605
U.S. Citizens	17,011	13,990	12,169	12,344	11,987	12,689	12,684	12,842	12,868	13,055	13,052	12,744	12,430
Permanent Visas	446	309	441	451	441	471	469	437	480	503	482	484	456
Temporary Visas	1,252	1,242	1,258	1,326	1,393	1,545	1,632	1,724	1,752	1,840	1,776	1,772	1,529
Unknown Citizenship	48	37	16	15	24	58	30	33	53	35	12	61	190
Unknown Race/Ethnicity	1,766	1,478	2,262	2,271	2,410	1,622	1,298	1,277	1,131	881	1,021	1,237	2,433
U.S. Citizens	848	419	324	276	279	266	356	258	172	169	213	227	512
Permanent Visas	66	29	53	67	45	40	47	56	25	34	24	23	34
Temporary Visas	350	225	408	312	301	458	437	348	209	229	224	190	172
Unknown Citizenship	502	805	1,477	1,616	1,785	858	458	615	725	449	560	797	1,715

★ In most cases, non-U.S. American Indians are citizens of Canada or of a Latin American country.
Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX TABLE B-2c Number of Doctorate Recipients, by Sex, Race/Ethnicity, and Citizenship, 1977, 1982, 1987-1997 (Women)

	Year of Doctorate												
	1977	1982	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
TOTAL WOMEN	7,858	10,093	11,432	11,819	12,513	13,106	13,873	14,436	15,122	15,819	16,414	16,945	17,322
U.S. Citizens	6,964	8,831	9,410	9,566	10,005	10,740	11,185	11,491	11,932	12,412	12,773	13,041	12,852
Permanent Visas	262	313	461	458	487	508	633	687	788	1,110	1,410	1,282	1,090
Temporary Visas	439	583	890	1,061	1,204	1,461	1,794	1,990	2,069	2,076	1,952	2,215	2,011
Unknown Citizenship	193	366	671	734	817	397	261	268	333	221	279	407	1,369
Total Known Race/Ethnicity	7,384	9,549	10,553	10,944	11,551	12,539	13,417	14,016	14,736	15,500	16,022	16,403	15,859
U.S. Citizens	6,712	8,651	9,264	9,459	9,908	10,632	11,053	11,396	11,872	12,327	12,683	12,925	12,557
Permanent Visas	251	304	445	448	470	487	619	669	779	1,096	1,393	1,273	1,067
Temporary Visas	394	558	830	1,018	1,154	1,383	1,708	1,920	2,021	2,013	1,910	2,158	1,963
Unknown Citizenship	27	36	14	19	19	37	37	31	64	64	36	47	272
American Indians	23	33	53	42	45	46	58	70	60	72	67	86	88
U.S. Citizens	22	33	53	42	45	45	56	67	60	72	67	84	81
Permanent Visas★	1	0	0	0	0	0	2	0	0	0	0	1	0
Temporary Visas★	0	0	0	0	0	1	0	2	0	0	0	1	3
Unknown Citizenship	0	0	0	0	0	0	0	1	0	0	0	0	4
Asians	340	549	779	935	1,029	1,262	1,648	1,862	2,054	2,297	2,596	2,616	2,585
U.S. Citizens	88	171	174	200	187	214	306	317	338	359	470	477	569
Permanent Visas	83	108	170	165	176	183	253	311	392	718	970	822	670
Temporary Visas	163	262	429	561	662	854	1,077	1,231	1,312	1,217	1,150	1,310	1,232
Unknown Citizenship	6	8	6	9	4	11	12	3	12	3	6	7	114
Blacks	458	615	519	568	562	621	678	663	773	792	944	904	910
U.S. Citizens	431	564	453	501	494	550	589	575	670	690	819	780	808
Permanent Visas	8	15	21	26	16	21	25	22	31	36	43	36	32
Temporary Visas	13	33	44	40	51	48	61	65	70	59	76	78	56
Unknown Citizenship	6	3	1	1	1	2	3	1	2	7	6	10	14
Hispanics	156	270	377	370	401	468	513	542	556	668	630	692	705
U.S. Citizens	117	193	285	274	275	341	361	368	411	446	459	472	508
Permanent Visas	16	27	41	34	43	47	48	59	45	66	63	69	53
Temporary Visas	22	47	50	61	80	77	102	111	97	156	103	149	122
Unknown Citizenship	1	3	1	1	3	3	2	4	3	0	5	2	22
Whites	6,407	8,082	8,825	9,029	9,514	10,142	10,520	10,879	11,293	11,671	11,785	12,105	11,571
U.S. Citizens	6,054	7,690	8,299	8,442	8,907	9,482	9,741	10,069	10,393	10,760	10,868	11,112	10,591
Permanent Visas	143	154	213	223	235	236	291	277	311	276	317	345	312
Temporary Visas	196	216	307	356	361	403	468	511	542	581	581	620	550
Unknown Citizenship	14	22	6	8	11	21	20	22	47	54	19	28	118
Unknown Race/Ethnicity	474	544	879	875	962	567	456	420	386	319	392	542	1,463
U.S. Citizens	252	180	146	107	97	108	132	95	60	85	90	116	295
Permanent Visas	11	9	16	10	17	21	14	18	9	14	17	9	23
Temporary Visas	45	25	60	43	50	78	86	70	48	63	42	57	48
Unknown Citizenship	166	330	657	715	798	360	224	237	269	157	243	360	1,097

★In most cases, non-U.S. American Indians are citizens of Canada or of a Latin American country.
Source: NSF/NIH/NEH/USED/USDA, Survey of Earned Doctorates

APPENDIX C: Technical Notes

I. Survey Response Rates

SURVEY RESPONSE RATES*

Year	Self-Report Rate	Year	Self-Report Rate
1966	96.3	1982	95.3
1967	97.3	1983	95.5
1968	97.6	1984	95.1
1969	96.6	1985	94.8
1970	98.1	1986	93.5
1971	97.5	1987	93.1
1972	97.3	1988	92.9
1973	97.5	1989	92.3
1974	94.2	1990	93.6
1975	97.3	1991	94.6
1976	97.2	1992	95.1
1977	96.6	1993	94.7
1978	96.3	1994	94.6
1979	96.4	1995	94.1
1980	96.2	1996	92.8
1981	95.7	1997	90.8

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* The rates for 1965-1996 reflect late responses. The rate for 1997 may increase slightly in the next year if additional questionnaires are received after survey closure. Self-report rates for 1980-1997 are determined from the "source of response" indicator in the doctorate records. Because this indicator was not coded prior to 1980, survey forms for 1965-1979 are assumed to be self-reported if "month signed" or "marital status" is present. "Marital status" is not available from sources other than the doctorate recipient.

As shown in the table above, 90.8 percent of 1997 recipients of U.S. doctorates completed survey forms. This percentage is referred to as the "self-report" rate. For the remaining doctorate recipients, "skeleton" records were created using basic information obtained from doctorate granting institutions or from commencement programs. This skeleton information includes Ph.D. institution, Ph.D. field, Ph.D. year, and sex of Ph.D. recipient. With regard to the latter, it should be noted that sex was not always available even for survey respondents. Every effort was made to obtain this information for as many respondents as possible. For a small percentage, this could not be done with confidence. Thus, there are missing data for many of the tabulations involving sex in this year's report. In previous years, whenever sex was missing, the data were assigned to "male." In 1997, this practice was discontinued. However, for consistency with previously published results from earlier reports, this procedure was used for years prior to 1997 in all trend tables. The tabulations involving sex for 1997 exclude missing cases.

Wherever possible this report includes data from all Ph.D. records whether complete or skeletal; thus the reported total number of Ph.D. recipients for 1997 (42,705) includes both respondents and non-respondents. Response rates are highest for tabulations involving these variables: Ph.D. institution, Ph.D. field, Ph.D. year, and sex of Ph.D. recipient.

II. Item Response Rates

The table on the following pages shows the response rates for each item in the Survey of Earned Doctorates for 1997. The numbers and percentages shown in the tables and figures in the body of the Summary Report are based only on the number of doctorate recipients who responded to the applicable survey items. For cross-tabulations, the response rate for a given tabulation will lie between the response rates for the items involved in the tabulation.

For additional technical information on the Survey of Earned Doctorates, please contact

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II. ITEM RESPONSE RATES, 1987-97

Variable Name	Field	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
PHDFICE	Ph.D. FICE Code	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	NA
RACE	Race/Ethnic Group (Recoded)	90.3	90.6	90.2	93.9	95.3	95.6	96.2	97.1	96.6	95.8	92.5
PHDENTRY	First Grad. Year in Ph.D. Instn.	NA	NA	NA	NA	NA	NA	86.9	86.7	86.5	85.5	78.4
SRCE1ED	Primary Source of Support (Edited)	83.2	83.3	82.5	78.1	77.6	69.7	66.2	72.4	74.9	87.9****	87.2
PDWK1ED	Primary Work Activity (Edited)	62.0	61.4	61.4	56.2	55.9	55.7	54.7	56.3	56.6	60.8	60.0
		(92.2)	(92.6)	(92.4)	(83.8)	(83.8)	(83.5)	(83.3)	(86.1)	(86.8)	(93.3)	(94.4)
PDWK2ED	Secondary Work Activity (Edited)	39.5	38.9	39.2	39.5	39.5	37.4	36.7	38.2	38.4	48.5	51.4
		(58.7)	(58.6)	(58.9)	(58.9)	(59.3)	(56.0)	(55.8)	(58.4)	(58.8)	(74.4)	(80.9)
EDFATHER	Father's Education	88.2	88.8	88.3	90.8	92.3	93.1	92.7	92.7	92.3	91.4	88.8
EDMOTHER	Mother's Education	87.1	88.2	87.5	90.5	92.2	93.0	92.6	92.5	92.1	91.6	89.1
BIRTHYR	Year of Birth	93.6	95.8	92.4	96.6	98.2	97.7	97.3	98.2	97.5	96.8	92.5
BIRTHPL	Place of Birth	92.6	92.5	91.8	92.1	94.1	95.1	94.9	94.8	94.5	93.0	89.9
SEX	Sex	100.0	100.0	100.0	100.0	99.6	99.4	99.2	99.6	99.6	99.5	99.1
MARITAL	Marital Status	91.4	91.6	91.0	91.7	91.5	92.0	91.6	91.5	91.0	91.6	88.6
DEPENDS	Number of Dependents	84.9	85.8	85.8	90.0	89.5	89.8	89.8	89.7	89.4	89.4	87.6
CITIZ	Citizenship	93.2	92.9	92.3	96.2	97.9	97.6	97.1	98.2	97.9	96.9	91.5
CNTRYCIT	Country of Citizenship	19.8	20.8	21.7	26.4	29.2	30.3	30.2	31.9	31.3	31.3	25.7
		(89.3)	(89.3)	(90.1)	(97.2)	(98.0)	(98.5)	(98.6)	(99.3)	(99.4)	(98.5)	(96.5)

NOTE: NA = not available.

*Because this field is not applicable to all doctorate recipients, the response rate will always be under 100%.

**There are no Carnegie Codes for Research Institute of Scripps Clinic/CA (new in FY 1994), Annenberg Research Institute/PA (not doctorate-granting after FY 1992), St. Stephens College/MA (defunct), and Woodstock College/NY (defunct).

***The percentage represents the race/ethnic groups standardly reported by OSEP/NRC; multiple and "other" races are excluded.

****As of FY 1996, the percentage includes recipients who said they had no primary source of support.

*****The percentages on the first line are based on the total doctoral cohort for a fiscal year. The percentages on the second line (enclosed in parentheses) are based on the number of recipients who reported plans for postdoctoral employment.

Variable Name	Field	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
RACERAW	Race/Ethnic Group	90.3	90.6	90.2	93.9	95.3	95.6	96.2	97.1	96.6	95.8	92.5
HANDICAP	Handicap Indic. (incl. "No" from 1989-present)	1.4	1.7	91.0	92.4	93.4	93.9	93.6	93.7	93.3	91.7	89.4
HSPLACE	Place of High School	92.3	90.6	89.8	90.8	93.5	94.5	94.0	93.9	93.5	92.1	89.5
HSYEAR	Year of H.S. Graduation	90.3	89.2	88.5	90.5	90.9	92.1	92.1	91.7	91.6	90.4	88.3
JRCOLL	Jr. Coll. Indic. (incl. "No")	89.4	90.2	89.1	90.8	92.0	92.7	92.9	92.5	92.3	90.5	90.8
REGNURSE	Registered Nurse	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
CEPLACE	Place of College Entrance	91.6	90.5	90.3	90.8	91.8	92.7	92.8	92.3	92.1	90.5	81.9
CEYEAR	Year of College Entrance	90.5	89.7	89.3	90.1	91.3	92.2	91.7	91.5	91.2	89.0	82.0
BAINST	Baccalaureate Institution	95.2	96.1	94.4	95.7	96.5	96.4	96.3	96.6	95.8	94.9	88.6
BAFIELD	Field of Baccalaureate	90.9	90.6	90.3	91.0	92.3	92.4	91.9	91.6	90.9	89.2	82.1
BAYEAR	Year of Baccalaureate	94.1	95.4	93.2	95.0	95.5	96.0	95.7	96.2	95.5	94.7	87.7
BANONE	No Baccalaureate/Master's	0.6	0.7	0.6	1.1	1.1	0.9	8.6*****	9.1*****	9.7*****	11.4*****	6.9*****
GEYEAR	Year of Graduate Entrance	89.0	88.5	88.2	86.6	89.4	89.5	88.6	88.2	87.4	85.7	76.7
MAINST	Master's Institution	78.8	78.3	77.5	78.2	78.4	79.0	78.6	78.9	78.0	77.2	72.0
MAFIELD	Field of Master's	75.9	75.3	74.6	75.5	76.3	77.0	76.1	76.1	75.3	74.5	68.3
MAYEAR	Year of Master's	77.3	76.7	75.9	76.7	77.1	77.7	77.0	77.1	76.3	75.5	70.7

NOTE: NA = not available.

*The percentages of the first line are based on the total doctoral cohort for a fiscal year. The percentages on the second line (enclosed in parentheses) are based on the number of non-U.S. citizens in that year.

**The percentage represents the race/ethnic groups standardly reported by OSEP/NRC; multiple and "other" races are excluded.

***The percentages from 1985-1988 represent the numbers of Ph.D.s with handicaps. Beginning in 1989, the response rates include Ph.D.s who reported "no" handicap. Note: The definition of "handicapped" was much more restrictive in 1990 and 1991.

****Because this field is not applicable to all doctorate recipients, the response rate will always be under 100%.

*****Because this field is not applicable to all doctorate recipients, the response rate will always be under 100%. Note; "No Baccalaureate/Master's" represents only "no baccalaureate" from 1983 to 1992. Beginning in 1993, it indicates that the Ph.D. held no baccalaureate and/or master's degree.

Variable Name	Field	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
PROFDEG	Type Professional Doctorate	1.2	1.1	1.3	1.3	1.6	1.6	1.6	1.7	1.8	1.9	1.9
PROFYEAR	Year Professional Doctorate	1.2	1.1	1.3	1.3	1.6	1.5	1.6	1.7	1.8	1.9	1.7
PHDINST	Doctorate Institution	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PHDFIELD	Field of Doctorate	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	98.5
PHDCY	Calendar Year of Doctorate	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PHDMONTH	Month of Doctorate	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PHDFY	Fiscal Year of Doctorate	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PHDTYPE1	Type of Doctorate	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	95.0
PHDTYPE2	Applied Research Doctorate	2.9	3.1	2.8	2.6	2.3	2.4	2.4	2.7	2.5	2.2	0.9
TOCEBA	Time Out CE-BA	89.2	88.3	88.0	88.5	89.7	90.5	89.7	89.7	88.9	86.7	82.1
TOBAGE	Time Out BA-GE	88.9	88.6	88.3	86.6	89.5	89.6	88.6	88.2	87.4	85.7	76.7
TOGEMA	Time Out GE-MA	73.1	72.4	71.7	72.2	73.3	74.0	73.1	73.1	72.0	70.4	61.3
TOMAPHD	Time Out MA-Ph.D.	71.2	71.4	70.1	65.2	69.9	71.1	69.9	70.0	69.0	68.1	67.5
TOGEPHD	Time Out GE-Ph.D.	85.0	85.7	84.7	77.4	84.0	84.5	83.1	82.5	81.8	80.2	75.9
TICEPHD	Time In CE-Ph.D.	85.0	85.2	84.1	76.7	83.4	84.3	83.0	82.9	82.4	80.8	75.1
YEARSFT	Full-time enrollment	50.9	71.2	69.3	83.1	73.9	75.7	75.7	75.2	74.5	77.1	82.1
YEARSPT	Part-time enrollment	50.9	71.2	69.3	NA	NA	NA	NA	NA	NA	NA	NA
YEARSOUT	Not enrolled	50.9	71.2	69.3	NA	NA	NA	NA	NA	NA	NA	NA
PHDDISS	Field of Dissertation	NA	91.0	89.8	NA	NA	65.0**	92.7	93.3	92.4	92.0	88.5
SRCEPRIM	Primary Source of Support	74.5	72.3	71.7	75.8	77.7	69.7	66.1	72.4	74.9	87.9***	87.2
DEBTIND	Debt Indicator (incl. "No")	70.3****	90.8	90.9	92.2	93.1	93.3	92.8	92.8	92.4	91.1	88.5
PRESTAT	Predoctoral Status	91.4	91.2	90.7	92.4	93.5	93.5	93.1	92.9	92.5	91.7	87.6
PDOCSTAT	Postdoctoral Status	90.5	90.2	89.6	90.7	91.6	92.1	91.8	91.7	91.0	90.9	88.3
PDOCPLAN	Postdoctoral Plans	90.0	89.8	89.4	91.3	92.1	92.5	92.4	92.4	91.8	91.2	86.5

NOTE: NA = not available

*Because this field is not applicable to all doctorate recipients, the response rate will always be under 100%.

**The percentage was low in 1992 because 28% of the Ph.D.s completed earlier survey forms that did not request field of dissertation.

***As of FY 1996, the percentage included recipients who said they had no primary source of support.

****The percentage was low in 1987 because 22% of the Ph.D.s completed earlier survey forms that did not include the question on debt status.

Variable Name	Field	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
PDREASON	Reason for Postdoctoral Appointment	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
PDSTDFLD	Postdoctoral Study Field	21.6	22.6	21.9	23.2	24.4	24.3	25.1	25.3	25.0	25.4	25.4
		(93.8)	(95.0)	(94.7)	(95.2)	(95.1)	(93.4)	(94.0)	(93.8)	(93.9)	(97.4)	
PDSTDSUP	Sources of Study Support	21.4	22.3	21.6	22.4	24.0	24.2	24.7	25.1	24.6	24.7	24.8
		(92.9)	(93.8)	(93.6)	(91.8)	(93.4)	(92.9)	(92.4)	(93.1)	(92.5)	(94.9)	
PDEMPLOY	Type of Employer	64.2	63.5	63.9	63.6	63.3	62.9	61.4	61.1	60.9	61.4	59.8
		(95.4)	(95.7)	(96.1)	(94.9)	(94.9)	(94.3)	(93.5)	(93.5)	(93.4)	(94.2)	(94.1)
PDWKPRIM	Primary Work Activity	62.0	61.4	61.4	56.2	55.9	55.7	54.7	56.3	56.6	60.8	60.1
		(92.2)	(92.6)	(92.4)	(83.8)	(83.8)	(83.5)	(83.3)	(86.1)	(86.8)	(93.3)	(94.5)
PDWKSEC	Secondary Work Activity	39.5	38.9	39.2	39.5	39.6	37.4	36.7	38.2	38.4	48.5	49.4
		(58.7)	(58.6)	(58.9)	(58.9)	(59.3)	(56.0)	(55.9)	(58.4)	(58.8)	(74.4)	(77.7)
PDEMPFLD	Field of Employment	51.3	48.2	47.9	47.0	47.3	45.3	44.0	45.4	45.7	58.3	59.1
		(76.3)	(72.7)	(72.1)	(70.2)	(70.8)	(68.0)	(67.0)	(69.4)	(70.1)	(89.6)	(93.0)
PDCONSID	Postdoctoral Appointment Consideration	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
PDDECISN	Decision Against Postdoctoral	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)	
PDAFFIL***	Postdoctoral Affliation	67.9	68.6	68.3	80.0	89.6	94.4	93.8	94.6	94.1	92.6	83.2

NOTE: NA = not available

*The percentages on the first line are based on the total doctoral cohort for a fiscal year. The percentages on the second line (enclosed in parentheses) are based on the number of recipients who reported plans for postdoctoral study.

**The percentages on the first line are based on the total doctoral cohort for a fiscal year. The percentages on the second line (enclosed in parentheses) are based on the number of recipients who reported plans for postdoctoral employment.

***In the 1997 dataset, this variable is broken into three parts (PDLOC, PDOCCODE, AND PDFORGN). The 1997 response rate is based on the presence of a valid value for any of the three subparts. This parallels what was reported for earlier rounds.

III. Derived Variables

The following derived variables deserve further explanation.

Postdoctoral Plans to Stay in the United States

In 1997, the planned postdoctoral location of Ph.D. recipients was coded in a new variable called PDLOC coded using FIPS codes for U.S. states and territories and countries. Values of PDLOC less than 100 indicate a postdoctoral location in the United States.

For years prior to 1997, this variable is based on PDAFFIL. If the first character of PDAFFIL is numeric, the respondent has indicated a planned postdoctoral affiliation in the United States. Non-numeric values in the first position of PDAFFIL (except "R") indicate non-U.S. locations. A value of "R" for PDAFFIL signifies the respondent's refusal to provide information.

For the interested user, the following is the SAS code used to produce "USPLAN" as an index of plans to stay in the United States following the Ph.D. using PDAFFIL1 (a variable created using the first character of PDAFFIL).

```
usplan=2;
if pdaffil1 in ("0","1","2","3","4","5","6","7","8","9") then usplan=1;
if pdaffil1 eq "R" then usplan=.;
if pdaffil1 eq " " then usplan=.;
```

Firm Postdoctoral Plans

Postdoctoral Plans are coded using the values of PDOCSTAT which indicate that the Ph.D. recipients postdoctoral plans were definite at the time the survey was completed. That is, codes 0, 1, or A on PDOCSTAT indicate that the respondent had definite postdoctoral plans, whereas codes 2, 3, and 4 indicate that the respondent was still seeking to determine postdoctoral placement.

The following is the SAS code used to derive FIRMPLAN from PDOCSTAT :

```
if pdocstat in ("0","1","A") then firmplan=1;   /* Definite */
if pdocstat in ("2","3","4") firmplan=2;   /* Seeking */
if pdocstat eq " " then firmplan=.;
```

Firm Plans to Stay in the United States

This variable is derived from USPLAN and FIRMPLAN. A respondent was coded as having firm plans to stay in the United States if the reported postdoctoral location was in the United States and the reported postdoctoral plans were coded "definite."

The following is the SAS code that creates the variable FIRMUS from USPLAN and FIRMPLAN as described above.

```
firmus=2;
if (usplan eq 1 and firmplan eq 1) then firmus=1;
if usplan eq . or firmplan eq . then firmus=.;
```

Primary Source of Graduate School Support

In 1995 the response rate to the question on primary sources of financial support was 74.8 percent. In 1996 and 1997, the response rate jumped to 87.9 and 87.2 percent, respectively. This increase in response was due to a revision of the questions on sources of support. In 1995 and earlier years the questionnaire asked the respondent to identify *and* rank their sources in one question. Starting in 1996, the questionnaire asked the respondent to identify all sources of support in one question and in a separate question asked them to indicate their primary and secondary sources. The separate question on primary/secondary sources also provided the opportunity to denote that the doctorate recipient had no primary or secondary sources of support.

Race/Ethnicity

Adjustments to numbers: Readers should keep in mind that fluctuations in numbers for a racial/ethnic group reflect to some degree any upward or downward change in both overall survey response and response to the racial/ethnic item. Since 1990 response to race/ethnicity has shown great improvement -- a result of new procedures for following up missing information. Race/ethnicity was not followed up prior to 1990.

All follow-up responses received before survey closure are included in the data presented in the *Summary Report* for that survey. Responses arriving after closure are included in the next year's report. The extension of survey closure dates in the past four years has allowed most follow-up responses to be received in time to be included in the *Summary Reports* for those surveys. Postsurvey adjustments were greatest for 1990 and 1991 data, much less for 1992, and minimal for 1993. In 1994 response to the racial/ethnic item reached 97 percent by survey closure -- the highest rate ever. Any postsurvey adjustments for 1997 data will be included in next year's report, but they are expected to be very slight because of the extended closure. Updated numbers for all recent years appear in Appendix Table B-2 in this report.

History of the racial/ethnic question: Although this item was first introduced to the Survey of Earned Doctorates in 1973, over 25 percent of recipients in 1973 and about 13 percent in 1974 either completed earlier questionnaires or provided unusable responses. Since 1975 the racial/ethnic data have been more reliable, with response rates ranging from 90.1 to 97.1 percent (the latter in 1994). The information on race/ethnicity presented in this report is limited to the period 1977 to 1997.

The racial/ethnic question has undergone several revisions over the years. In 1977 it was modified to correspond to a standard question format recommended by the Federal Interagency

Committee on Education and adopted by the Office of Management and Budget (OMB) for use in federally sponsored surveys; and explanation of the effect of these changes is detailed on page 13 of *Summary Report 1977*. (Note: Changes in the OMB guidelines prompted the reclassification of persons having origins in the Indian subcontinent from the white category to the Asian category.) In 1980 the question was further revised in two ways: (1) the Hispanic category was subdivided into Puerto Rican, Mexican American, and other Hispanic, and (2) respondents were asked to check only one racial category. (Before 1980 doctorate recipients could check more than one category to indicate their race.) The item was modified again in 1982 to separate the questions on race and ethnicity. Since then, respondents have been asked to first check on of the four racial group categories (American Indian, Asian, black, or white) and then indicate whether or not they are Hispanic. *In this report, Ph.D.s who reported Hispanic heritage are classified as Hispanic regardless of their racial designations*; the remaining Ph.D.s are then counted in the respective racial groups. (Note: Doctorate recipients who checked the category "American Indian or Alaskan Native" are identified as "American Indian" in this report.)

Time to Doctorate

Total time to degree (TTD): TTD measures the total elapsed time between the baccalaureate and the doctorate (including time not enrolled in school.) TTD can be computed only for individuals whose baccalaureate year is known. Baccalaureate year is often obtained from commencement programs or doctorate institutions when not reported by the recipient.
Months are now included in the computation (see note below).

Registered time to degree (RTD): RTD gauges the time in attendance at colleges and universities between receipt of the baccalaureate and the doctorate. Enrollment may include years of attendance not related to a recipient's doctoral program. RTD can only be computed for individuals who provided all years of college attendance after the baccalaureate.
Months are now included in the computation (see note below).

Note about medians: *The method of computing medians has been revised. Beginning with* Summary Report 1994, ***months*** *(of birth, baccalaureate, and doctorate) are included in the calculations whenever available; if months are missing, only years are used in the calculations. (However, medians are not computed for years prior to 1969 because doctorate month is unavailable for all Ph.D.s.) Medians presented in previous* Summary Reports *were based only on years. Some medians would be the same regardless of the method of computation, but the new method generally computes slightly different results. While differences are small (usually one- or two-tenths of a year), readers should consider these differences when comparing medians presented in the report with those in earlier reports.*

APPENDIX D

Survey of Earned Doctorates Questionnaire, 1996-1997

Please print your name in full:

Last Name	**Suffix (e.g., Jr.)**	**First Name**	**Middle Name**

Cross reference: ***Birth name or former name legally changed***

This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. ALL INFORMATION YOU PROVIDE WILL BE TREATED AS CONFIDENTIAL and used only for [illegible] statistical purposes by your doctoral institution, the survey sponsers, their contractors, and [illegible] researchers for the purpose of analyzing data, preparing scientific reports and articles, and [illegible] for a limited number of carefully defined follow-up studies. Your social security number is also [illegible] the NSF Act of 1950, as amended. Providing it is also voluntary. It is used for survey quality [illegible] evaluation, and for matching with other databases. Any information publicly released (such as [illegible] summaries) will be in a form that does not personally identify you. Your response is voluntary and [illegible] provide some or all of the requested information will not in any way adversely affect you.

The time needed to complete this form varies according to individual circumstances, but the [illegible] estimated to be 20 minutes. If you have comments regarding this time estimate, you [illegible] Science Foundation, 4201 Wilson Blvd., Arlington, VA 22230, Attention: NSF Reports [illegible]

OMB No. 3145-0019
Approval Expires 6/30/97

NATIONAL SCIENCE FOUNDATION
4201 WILSON BOULEVARD
ARLINGTON, VIRGINIA 22230

To the Doctorate Recipient:

Congratulations on earning a doctoral degree! This is an important accomplishment for you. Your accomplishment is also significant for both this nation and others, as the new knowledge generated by research doctorates enhances the quality of life in this country and throughout the world. Because of the importance of persons earning research doctorates, several Federal agencies — listed on the cover — sponsor this Survey of Earned Doctorates.

The basic purpose of this survey is to gather objective data about doctoral graduates. These data are important in improving graduate education both at your home institution and beyond. Often, decisions made by governmental and private agencies to develop new programs, or to support present ones, are based in part on the data developed from this survey.

This form is distributed by the Graduate Deans and is filled out by all persons who have completed the requirements for a research doctoral degree. Please print your name on the cover if you have not already done so, and then complete this questionnaire and return it to the Graduate Dean. The confidentiality of the information you provide is carefully protected.

On behalf of the sponsoring Federal agencies and the National Research Council, I thank you for your participation in this survey.

Best wishes,

Kenneth M. Brown

Dr. Kenneth M. Brown
Director, Division of Science Resources Studies

INSTRUCTIONS

Thank you for taking the time to complete this important questionnaire. Directions are provided for each question. Because not all questions will apply to everyone, you may be asked to skip certain questions.

- If you have not already done so, please print your name on the front cover.
- Either a pen or pencil may be used.
- When answering questions that require marking a box, please use an "X."
- If you need to change an answer, please make sure that your old answer is either completely erased or clearly crossed out.
- On pages 8 and 9 (inside the back cover) is a Specialties List for classifying your field(s) of specialization in Questions A2, A10, B5, and B9.

Thanks again for your help; we really appreciate it.

PART A - Education

A1. What is the title of your dissertation?

Please mark (X) this box if the title below refers to a performance, project report or a musical or literary composition required instead of a dissertation

Title

A2. Using the Specialties List (pages 8-9), please write the name and number of the field of your dissertation research.

Name of field

Number of field

A3. After receiving your first bachelor's degree (or equivalent), and including the period spent on your dissertation, how many years were you a full-time student ?

Years (whole numbers)

A4. Please check the category that most fully describes your employment or study status during the year immediately before the award of the doctorate.

Mark (X) one

- Full-time employed → *GO to A5*
- Held fellowship
- Held assistantship
- Part-time employed
- Not employed
- Other - *Specify*

SKIP to A6

A5. *(IF FULL-TIME EMPLOYED)* **What type of position did you hold?**

Mark (X) one

- College or university, faculty
- College or university, non-faculty
- Elementary or secondary school, teaching
- Elementary or secondary school, non-teaching
- Industry or business
- Other - *Specify*

A6. In what state or country was the high school/ secondary school that you last attended?

State (if U.S.)

OR

Country (if not U.S.)

A7. When did you graduate from high school/ secondary school?

Month

Year 19

A8. Please name the department (or interdisciplinary committee, center, institute, etc.) of the university that supervised your doctoral program.

Mark (X) box if none

Department/Committee/Center/Institute/Program

A9. Please name the school or college within the university that supervised your doctoral program.

Mark (X) box if not applicable

School or College within University

A10. Please list below, chronologically, all colleges (including 2-year) and graduate institutions you have attended and each degree earned (if any). Be sure to give the years attended for ALL institutions attended. Include your doctoral institution(s) and degree at the end.

Mark (X) box if bachelor's degree (or equivalent) was never received

Mark (X) box if master's degree (or equivalent) was never received

EXAMPLE Institution and Location	Years Attended		Field of Study		Degree (if any)		
			Use Specialties List, pages 8-9			Granted	
Institution *Indian Institute of Technology* Branch or City / State or Province / Country (if not U.S.) *Madras* / / *India*	From *83*	To *85*	Field Name *Mechanical Engineering*	Number *345*	Title —	Mo. —	Yr. —
Institution *University of California* Branch or City / State or Province / Country (if not U.S.) *Berkeley* / *CA* /	From *85*	To *87*	Field Name *Mechanical Engineering*	Number *345*	Title *B.S.*	Mo. *6*	Yr. *87*

Institution and Location	Years Attended		Field of Study		Degree (if any)		
			Use Specialties List, pages 8-9			Granted	
Institution Branch or City / State or Province / Country (if not U.S.)	From	To	Field Name	Number	Title	Mo.	Yr.
Institution Branch or City / State or Province / Country (if not U.S.)	From	To	Field Name	Number	Title	Mo.	Yr.
Institution Branch or City / State or Province / Country (if not U.S.)	From	To	Field Name	Number	Title	Mo.	Yr.
Institution Branch or City / State or Province / Country (if not U.S.)	From	To	Field Name	Number	Title	Mo.	Yr.
Institution Branch or City / State or Province / Country (if not U.S.)	From	To	Field Name	Number	Title	Mo.	Yr.
Institution Branch or City / State or Province / Country (if not U.S.)	From	To	Field Name	Number	Title	Mo.	Yr.

If you have attended more than six institutions of higher education, please continue this list on the back cover. Be sure to include your doctoral institution.

A11. This question is about your sources of support during graduate school. Did you receive support from the following sources?

Mark (X) Yes or No for each	Yes ↓	No ↓
OWN/FAMILY RESOURCES		
01 Own Earnings	1	2
02 Spouse's Earnings	1	2
03 Family Contributions	1	2
UNIVERSITY-RELATED		
10 Teaching Assistantship	1	2
11 Research Assistantship	1	2
12 University Fellowship	1	2
14 College Work-Study	1	2
19 Other - *Specify* ↴	1	2
FEDERAL RESEARCH ASSISTANTSHIP		
22 NIH	1	2
32 NSF	1	2
52 USDA	1	2
62 Other Federal - *Specify* ↴	1	2
OTHER FEDERAL SUPPORT		
21 NIH Traineeship/Fellowship	1	2
29 Other HHS	1	2
33 NSF Fellowship	1	2
40 Patricia Roberts-Harris Fellowship-formerly G*POP (Department of Education)	1	2
44 Title VI Foreign Language	1	2
49 Other Dept. of Education	1	2
53 USDA Fellowship	1	2
55 NEH	1	2
60 Veterans Administration	1	2
61 Fulbright Fellowship	1	2
69 Other Federal - *Specify* ↴	1	2
U.S. NATIONALLY COMPETITIVE FELLOWSHIPS (NON-FEDERAL)		
70 Ford Foundation	1	2
71 Rockefeller Foundation	1	2
73 Mellon Foundation	1	2
78 Other Fellowship - *Specify* ↴	1	2
STUDENT LOANS		
80 Guaranteed Student Loan (Stafford Loan)	1	2
81 Perkins Loan - formerly NDSL	1	2
89 Other Loan - *Specify* ↴	1	2
OTHER SOURCES		
90 Business/Employer	1	2
91 Foreign (Non-U.S.) Government	1	2
92 State Government	1	2
99 Other - *Specify* ↴	1	2

A12. Which TWO sources gave you the most support?

From A11, enter numbers of primary and secondary sources

a. ___|___ Primary source of support

Mark (X) if no primary source

b. ___|___ Secondary source of support

Mark (X) if no secondary source

A13. When you receive your doctoral degree, how much money will you owe that is directly related to your undergraduate and/or graduate education (tuition and fees, living expenses and supplies, transportation to and from school)?

0 None
1 $5,000 or less
2 $5,001 - $10,000
3 $10,001 - $15,000
4 $15,001 - $20,000
5 $20,001 - $25,000
6 $25,001 - $30,000
7 $30,001 or more

PART B - Postgraduation Plans

B1. How definite are your immediate postgraduate plans?

Mark (X) one

0 Am returning to, or continuing in, predoctoral employment → ***GO to B2, page 5***
1 Have signed contract or made definite commitment for other work or study → ***GO to B2, page 5***
2 Am negotiating with one or more specific organizations → ***SKIP to B3, page 5***
3 Am seeking position but have no specific prospects → ***SKIP to B3, page 5***
4 Other - *Specify* ↴ → ***SKIP to B3, page 5***

B2. Please name the organization and geographic location where you will work or study.

Name ______________________

City ______ State (if U.S.) ______ Country (if not U.S.) ______

SKIP to B4

B3. In what state or country do you intend to live after graduation?

Mark (X) one

0 in U.S. → State ______________

1 not in U.S. → Country ______________

B4. What best describes your immediate postgraduate plans?

Mark (X) one

0 Postdoctoral fellowship
1 Postdoctoral research associateship
2 Traineeship
3 Other study - *Specify* ______________

4 Employment (other than 0,1,2,3)
5 Military service
6 Other - *Specify* ______________

SKIP to B7

B5. Please use the Specialties List (pages 8-9) to enter the name and number of your postdoctoral field.

Name of field ______________

Number of f[illegible]d ☐☐

B6. What will be the main source of financial support for your postdoctoral study/research?

Mark (X) one

0 U.S. Government
1 College or university
2 Private foundation
3 Nonprofit, other than private foundation
4 Other - *Specify* ______________

6 Unknown ______________

SKIP to C1, page 6

B7. For what type of employer will you be working?

Mark (X) one

EDUCATION
a U.S. 4-year college or university other than medical school
b U.S. medical school
c U.S. junior or community college
d Elementary or secondary school
e Foreign institution

GOVERNMENT
f Foreign government
g U.S. federal government
h U.S. state government
i U.S. local government

PRIVATE SECTOR
j Nonprofit organization
k Industry or business
l Self-employed

OTHER
m Other - *Specify* ______________

B8. From the list below, please indicate what your primary and secondary work activities will be by entering the numbers of your selections in the appropriate boxes:

Enter numbers from below:

a. Primary Activity

b. Secondary Activity

0 Research and development
1 Teaching
2 Administration
3 Professional services to individuals
5 Other - *Specify* ______________

B9. Please use the Specialties List (pages 8-9) to enter the name and number of the field in which you will be working.

Name of field ______________

Number of field ☐☐

PART C - Background Information

C1. Are you -

1 Male
2 Female

C2. What is your marital status?

Mark (X) one

0 Single, never married
1 Married
2 Separated, divorced, widowed

C3. Not including yourself, how many dependents do you have - that is, how many others receive at least one half of their support from you?

Number

C4. What is the highest educational attainment of your mother and father?

Mark (X) one for each parent

	Mother ↓	Father ↓
Less than high school/ secondary school	1	1
High-school/secondary-school graduate	2	2
Some college	3	3
Bachelor's	4	4
Master's	5	5
Professional	6	6
Doctorate	7	7

C5. What is your place of birth?

State (if U.S.)

OR

Country (if not U.S.)

C6. What is your date of birth?

Month Day Year 19

C7. What is your citizenship status?

Mark (X) one

U.S. Citizen:

0 Native Born
1 Naturalized → *SKIP to C9*

Non-U.S. Citizen:

2 With a Permanent U.S. Resident Visa
3 With a Temporary U.S. Resident Visa

C8. *(IF A NON-U.S. CITIZEN)* **Of which country are you a citizen?**

(Specify country of present citizenship)

C9. Are you a person with a disability?

1 Yes

2 No → *SKIP to C11*

C10. *(IF YES)* **Which of the following categories describes your disability?**

1 Visual
2 Orthopedic (mobility)
3 Auditory (hearing)
4 Vocal
5 Other - *Specify*

C11. Are you Hispanic?

1 Yes → *GO to C12, page 7*

2 No → *SKIP to C13, page 7*

C12. *(IF YES TO C11)* **Which of the following describes your Hispanic origin or descent?**

0 Mexican American
1 Puerto Rican
2 Other Hispanic - *Specify*

____

C13. What is your racial background?

Mark (X) one

0 American Indian or Alaskan Native
1 Asian or Pacific Islander
2 Black
3 White

C14. Please provide a permanent address through which you could always be reached:

Care of (if applicable)

Number and Street

City/Town State or Province Zip Code or Postal Code

Country (if outside U.S.)

C15. Please fill in your U.S. Social Security Number: ☐☐☐-☐☐-☐☐☐☐

C16. Please sign and date.

Signature Date

Mark (X) box if you would like a summary of the results of this survey (available as funding permits) Results of the Survey of Earned Doctorates can be found on the National Science Foundation's World Wide Web home page at http://www.nsf.gov/sbe/srs/stats.htm

Did you remember to put your name on the front cover?

Please turn to the back cover to make any additional comments you may have about this survey.

145

SPECIALTIES LIST

INSTRUCTIONS: The following field listing is to be used in responding to items A2, A10, B5, and B9. If you choose a field marked with an asterisk (*), please write in your field of specialization in the space provided in those items.

AGRICULTURAL SCIENCES

000 Agricultural Economics
002 Agricultural Business & Mgmt.
005 Animal Breeding & Genetics
010 Animal Nutrition
012 Dairy Science
014 Poultry Science
055 Fisheries Sci. & Management
019 Animal Sciences, Other*
020 Agronomy & Crop Science
025 Plant Breeding & Genetics
030 Plant Pathology (See also 120)
039 Plant Sciences, Other*
043 Food Engineering
044 Food Sciences, Other*
046 Soil Chemistry/Microbiology
049 Soil Sciences, Other*
050 Horticulture Science
066 Forest Biology
068 Forest Engineering
070 Forest Management
072 Wood Sci. & Pulp/Paper Tech.
074 Conserv./Renewable Natural Res.
079 Forestry & Related Sci., Other*
080 Wildlife/Range Management
098 Agricultural Sci., General
099 Agricultural Sci., Other*

BIOLOGICAL SCIENCES

100 Biochemistry
103 Biomedical Sciences
105 Biophysics
107 Biotechnology Research
110 Bacteriology
115 Plant Genetics
120 Plant Pathology (See also 030)
125 Plant Physiology
129 Botany, Other*
130 Anatomy
133 Biometrics & Biostatistics
136 Cell Biology (See also 154)
139 Ecology
142 Developmental Bio./Embryology
145 Endocrinology
148 Entomology
151 Biological Immunology
154 Molecular Biology
157 Microbiology
160 Neuroscience
163 Nutritional Sciences
166 Parasitology
169 Toxicology
170 Genetics, Human & Animal
175 Pathology, Human & Animal
(See also 120)
180 Pharmacology, Human & Animal
185 Physiology, Human & Animal
189 Zoology, Other*
198 Biological Sciences, General
199 Biological Sciences, Other*

HEALTH SCIENCES

200 Speech-Lang. Pathology & Audiology
210 Environmental Health
212 Health Systems/Service Admin.
215 Public Health (See also 133)
220 Epidemiology
222 Exercise Physiology/Sci., Kinesiology
230 Nursing
240 Pharmacy
245 Rehabilitation/Therapeutic Services
250 Veterinary Medicine
298 Health Sciences, General
299 Health Sciences, Other*

ENGINEERING

300 Aerospace, Aeronaut. & Astronaut.
303 Agricultural
306 Bioengineering & Biomedical
309 Ceramic Sciences
312 Chemical
315 Civil
318 Communications
321 Computer
324 Electrical & Electronics
327 Engineering Mechanics
330 Engineering Physics
333 Engineering Science
336 Environmental Health Engineering
339 Industrial & Manufacturing
342 Materials Science
345 Mechanical
348 Metallurgical
351 Mining & Mineral
357 Nuclear
360 Ocean
363 Operations Research
(See also 465, 930)
366 Petroleum
369 Polymer & Plastics
372 Systems
398 Engineering, General
399 Engineering, Other*

COMPUTER AND INFORMATION SCIENCES

400 Computer Science
410 Information Science & Systems*

MATHEMATICS

420 Applied Mathematics
425 Algebra
430 Analysis & Functional Analysis
435 Geometry
440 Logic (See also 785)
445 Number Theory
450 Mathematical Statistics
455 Topology
460 Computing Theory & Practice
465 Operations Research
(See also 363, 930)
498 Mathematics, General
499 Mathematics, Other*

PHYSICAL SCIENCES

Astronomy

500 Astronomy
505 Astrophysics

Atmospheric Sci. and Meteorology

510 Atmospheric Physics & Chemistry
512 Atmospheric Dynamics
514 Meteorology
518 Atmos. Sci./Meteorol., General
519 Atmos. Sci./Meteorol., Other*

Chemistry

520 Analytical
522 Inorganic
524 Nuclear
526 Organic
528 Medicinal/Pharmaceutical
530 Physical
532 Polymer
534 Theoretical
538 Chemistry, General
539 Chemistry, Other*
(See 100 Biochemistry)

Geological & Related Sciences

540 Geology
542 Geochemistry
544 Geophysics & Seismology
546 Paleontology
548 Mineralogy & Petrology
550 Stratigraphy & Sedimentation
552 Geomorphology & Glacial Geology
558 Geolog. & Related Sci., General
559 Geolog. & Related Sci., Other*

Physics

560 Acoustics
561 Chemical & Atomic/Molecular
564 Elementary Particle
566 Fluids
568 Nuclear
569 Optics
570 Plasma & High-Temperature
572 Polymer

SPECIALTIES LIST (continued)

574 Solid State & Low-Temperature
578 Physics, General
579 Physics, Other*

Miscellaneous Physical Sciences

580 Environmental Science
585 Hydrology & Water Resources
590 Oceanography
595 Marine Sciences
599 Misc. Physical Sciences, Other*

PSYCHOLOGY

600 Clinical
603 Cognitive & Psycholinguistics
606 Comparative
609 Counseling
612 Developmental & Child
613 Human/Indiv. & Family Devlpmt.
615 Experimental
618 Educational (See also 822)
620 Family & Marriage Counseling
621 Indust. & Organiz. (See also 935)
624 Personality
627 Physiological/Psychobiology
630 Psychometrics
633 Quantitative
636 School (See also 825)
639 Social
648 Psychology, General
649 Psychology, Other*

SOCIAL SCIENCES

650 Anthropology
652 Area Studies
658 Criminology
662 Demography/Population Studies
666 Economics
668 Econometrics
670 Geography
674 International Relations/Affairs
678 Political Sci. & Government
682 Public Policy Analysis
686 Sociology
690 Statistics (See also 450)
694 Urban Affairs/Studies
698 Social Sciences, General
699 Social Sciences, Other*

HUMANITIES

History

700 History, American
703 History, Asian
705 History, European
710 History/Philosophy of Sci. & Tech.
718 History, General
719 History, Other*

Letters

720 Classics
723 Comparative Literature
729 Linguistics
732 Literature, American
733 Literature, English
734 English Language
736 Speech & Rhetorical Studies
738 Letters, General
739 Letters, Other*

Foreign Languages and Literature

740 French
743 German
746 Italian
749 Spanish
752 Russian
755 Slavic (other than Russian)
758 Chinese
762 Japanese
765 Hebrew
768 Arabic
769 Other Languages & Literature*

Other Humanities

770 American Studies
773 Archeology
776 Art History/Criticism/Conserv.
780 Music
785 Philosophy (See also 440)
790 Religion (See also 984)
795 Drama/Theater Arts
798 Humanities, General
799 Humanities, Other*

EDUCATION

800 Curriculum & Instruction
805 Educational Admin. & Supervision
807 Educational Leadership
810 Educ./Instruct. Media Design
815 Educ. Stat./Research Methods
820 Educ. Assess./Test./Meas.
822 Educ. Psychology (See also 618)
825 School Psychology (See also 636)
830 Social/Phil. Found. of Education
835 Special Education
840 Couns. Educ./Couns. & Guid. Serv.
845 Higher Education/Eval. & Research

Teacher Education

850 Pre-elementary/Early Childhood
852 Elementary
856 Secondary
858 Adult & Continuing

Teaching Fields

860 Agricultural Education
861 Art Education
862 Business Education
864 English Education
866 Foreign Languages Education
868 Health Education
870 Home Economics Education
872 Tech. & Indust. Arts Education
874 Mathematics Education
876 Music Education
878 Nursing Education
880 Physical Education & Coaching
882 Reading Education
884 Science Education
885 Social Science Education
887 Technical Education
888 Trade & Industrial Education
889 Teacher Educ., Specific Acad. & Voc. Prog., Other*

Other Education

898 Education, General
899 Education, Other*

PROFESSIONAL FIELDS

Business Management and Administrative Services

900 Accounting
905 Banking/Financial Support Serv.
910 Business Admin. & Management
915 Business/Managerial Economics
916 International Business
917 Mgmt. Info. Sys./Bus. Data Proc.
920 Marketing Management & Research
930 Operations Research (See also 363, 465)
935 Organiz. Behavior (See also 621)
938 Bus. Mgmt./Admin. Serv., Gen.
939 Bus. Mgmt./Admin. Serv., Other*

Communications

940 Communications Research
947 Mass Communications
957 Communication Theory
958 Communications, General
959 Communications, Other* (See also 736)

Other Professional Fields

960 Architec. Environ. Design
964 Home Economics
968 Law
972 Library Science
974 Parks/Rec./Leisure/Fitness
976 Public Administration
980 Social Work
984 Theol./Religious Education (See also 790)
988 Professional Fields, General
989 Professional Fields, Other*

999 **OTHER FIELDS***

Comments About This Survey

Thank you for completing the questionnaire. Please return it to the GRADUATE DEAN for forwarding to The Office of Scientific and Engineering Personnel, National Research Council, TJ 1019, 2101 Constitution Avenue, N.W., Washington, D.C. 20418. Should you need to call us, our number is 1-800-242-5674.

APPENDIX E: Field Classification and Research Degree Titles

The appendix tables present data according to the following field classifications. Appendix Tables A-1 and A-2 and Appendix Table B-1 display all subfields that are on the survey Specialties List. Appendix Tables A-4, A-5, and A-6 show data by seven broad fields only. Appendix Tables A-3 and A-7 include the additional field groupings indicated below.

SCIENCES

Physical Sciences (400-599)
- Physics and Astronomy (500-505, 560-579)
- Chemistry (520-539)
- Earth, Atmospheric, and Marine Sciences (510-519, 540-559, 590-599)
- Mathematics (420-499) } Combined in Table A-7
- Computer Sciences (400410) } Combined in Table A-7

Engineering (300-399)

Life Sciences (000-299)
- Biological Sciences (100-199)
  - Biochemistry (100)
  - Other Biological Sciences (103-199)
- Health Sciences (200-299)
- Agricultural Sciences (000-099)

Social Sciences (600-699)
- Psychology (600-649)
- Economics and Econometrics (666, 668) } Combined in Table A-7
- Anthropology and Sociology (650, 686) } Combined in Table A-7
- Political Science and International Relations (674,678) } Combined in Table A-7
- Other Social Sciences (652-662, 670, 672, 682, 690-699) } Combined in Table A-7

NONSCIENCES

Humanities (700-799)
- History (700-719)
- English and American Language and Literature (732-734)
- Foreign Languages and Literature (740-769) } Combined in Table A-7
- Other Humanities (720-729, 736-739, 770-799) } Combined in Table A-7

Education (800-899)

Professional and Other Fields (900-999
- Business and Management (900-939)
- Other Professional Fields (940-989)
- Other Fields (999)

NOTE: Doctorate recipients indicate their fields of specialty. Their choices may differ from departmental names.

TITLES OF RESEARCH DEGREES INCLUDED IN THE SURVEY OF EARNED DOCTORATES

DA/DAT	**Doctor of Arts/Arts in Teaching**	**DMM**	**Doctor of Music Ministry**
DArch	**Doctor of Architecture**	**DMSc**	**Doctor of Medical Science**
DAS	**Doctor of Applied Science**	**DNSc**	**Doctor of Nursing Science**
DBA	**Doctor of Business Administration**	**DPA**	**Doctor of Public Administration**
DChem	**Doctor of Chemistry**	**DPE**	**Doctor of Physical Education**
DCJ	**Doctor of Criminal Justice**	**DPH**	**Doctor of Public Health**
DCL	**Doctor of Comparative Law/Civil Law**	**DPS**	**Doctor of Professional Studies**
DCrim	**Doctor of Criminology**	**DrDES**	**Doctor of Design**
DED	**Doctor of Environmental Design**	**DRE**	**Doctor of Religious Education**
DEng	**Doctor of Engineering**	**DRec/DR**	**Doctor of Recreation**
DEnv	**Doctor of Environment**	**DSc/ScD**	**Doctor of Science**
DESc/ScDE	**Doctor of Engineering Science**	**DScD**	**Doctor of Science in Dentistry**
DF	**Doctor of Forestry**	**DScH**	**Doctor of Science and Hygiene**
DFA	**Doctor of Fine Arts**	**DScVM**	**Doctor of Science in Veterinary Medicine**
DGS	**Doctor of Geological Science**	**DSM**	**Doctor of Sacred Music**
DHL	**Doctor of Hebrew Literature/Letters**	**DSSc**	**Doctor of Social Science**
DHS	**Doctor of Health and Safety**	**DSW**	**Doctor of Social Work**
DHS	**Doctor of Hebrew Studies**	**EdD**	**Doctor of Education**
DIT	**Doctor of Industrial Technology**	**JCD**	**Doctor of Canon Law**
DLS	**Doctor of Library Science**	**JSD**	**Doctor of Juristic Science**
DM	**Doctor of Music**	**LScD**	**Doctor of Science of Law**
DMA	**Doctor of Musical Arts**	**PhD**	**Doctor of Philosophy**
DME	**Doctor of Musical Education**	**RhD**	**Doctor of Rehabilitation**
DMin/DM	**Doctor of Ministry**	**SJD**	**Doctor of Juridical Science**
DMiss	**Doctor of Missiology**	**STD**	**Doctor of Sacred Theology**
DML	**Doctor of Modern Languages**	**ThD**	**Doctor of Theology**

NSF Publications from the Doctorate Data Project

DATA BRIEFS	*ISSUE BRIEFS*	*REPORTS*
Healthy Economy Yields Even Lower Unemployment Rate for Doctoral Scientists and Engineers	Ph.D. Unemployment Trends: Cause for Alarm?	Science and Engineering Doctorate Awards: 1997
Doctorate Awards Declining in Some Science and Engineering Fields	**What's Happening in the Labor Market for Recent Science and Engineering Ph.D. Recipients?**	**Science and Engineering Doctorates: 1960-91**
Despite Increases, Women and Minorities Still Underrepresented in Undergraduate Science and Engineering Education	Is the Gender Gap in Unemployment Disappearing?	Characteristics of Doctoral Scientists and Engineers in the U.S.: 1997 Early Release Tables
Doctoral Awards Increase in S&E Overall, But Computer Science Declines for First Time	**What is Happening to Academic Employment of Scientists and Engineers?**	**Characteristics of Doctoral Scientists and Engineers in the U.S.: 1995**
Employment of Scientists and Engineers Reaches 3.2 Million in 1995	International Mobility of Scientists and Engineers to the United States – Brain Drain or Brain Circulation	Who is Unemployed? Factors Affecting Unemployment Among Individuals with Doctoral Degrees in Science and Engineering
Data Sources and Publications Sources ***These publications contain data from the annual Survey of Earned Doctorates (a universe survey on the education of research doctorates) and the biennial Survey of Doctorate Recipients (a longitudinal sample survey of workforce characteristics).*** ***Complete electronic information on these surveys and publications may be obtained from www.nsf.gov/sbe/stats.htm.*** ***Written reports may be ordered online at www.nsf.gov/home/orderpub.htm or by calling 301-947-2722.*** ***'For further information please contact Susan T. Hill, Director, Doctorate Data Project, sthill@nsf.gov.***	**What is the Debt Burden of New Science and Engineering Ph.D.'s?**	**Science and Engineering State Profiles: 1997**
	Are Forms of Financial Support and Employment Choices of Recent Science and Engineering Ph.D.'s Related?	Doctoral Scientists and Engineers in the U.S.: 1995 Profile
	Does the Educational Debt Burden of Science and Engineering Doctorates Differ by Race/Ethnicity and Sex?	**Statistical Profiles of Foreign Doctoral Recipients in Science and Engineering: Plans to Stay in the United States**
	Has the Use of Postdocs Changed?	Women, Minorities, and Persons with Disabilities in Science and Engineering: 1998
	Degrees and Occupations: How Do They Change?	**Science and Engineering Degrees: 1966-96**
	How Much Does the U.S. Rely on Immigrant Engineers?	Science and Engineering Degrees, by Race/Ethnicity of Recipients: 1989-96
	What Follows Postdoctorate Experience? Employment Patterns of 1993 Postdocs in 1995	SESTAT: A Tool for Studying Scientists and Engineers in the United States

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